SOAP

and SANITARY CHEMICALS

In this issue...

Modern hand cleaners and protectants for industry

★ ★ ★ ★

Sanitary supply selling, a buyer gives his views

★ ★ ★ ★

Quaternary disinfectants, how can sales be upped?

★ ★ ★ ★

Hard surface cleansers classified and discussed

★ ★ ★ ★

Cover photo . . . The old and the new (left). "Satin Gloss" Floor Wax of Uncle Sam Chemical Co., New York, redesigns its one-gallon package. Container by Eastern Can Co.

JUNE 1951

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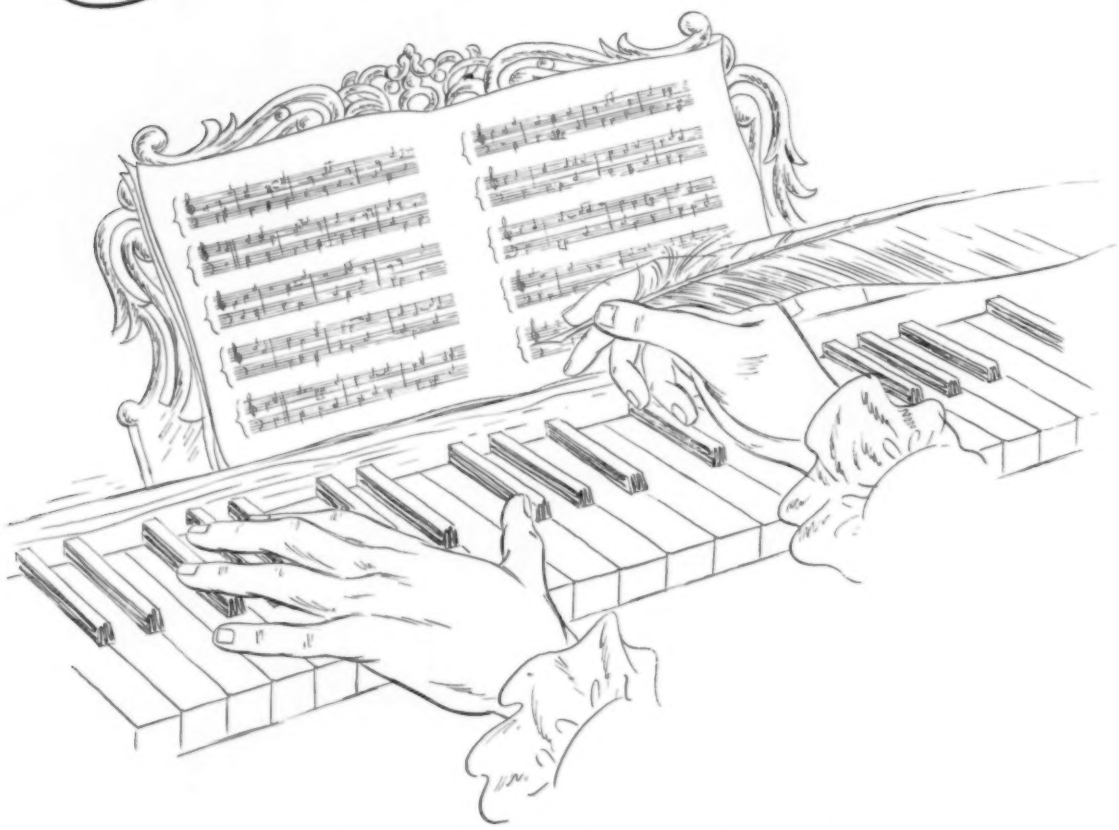

Creative Perfumery is the art and science of producing the correct, the perfect fragrance for any given product. More . . . **Creative Perfumery** is the dynamics of Fragrance applied to modern merchandising for easier selling . . . for more satisfied customers. With original notes, subtle compositions and imaginative harmonies **D&O Creative Perfumery** can become a compelling and successful factor in your Sales picture. Consult D&O

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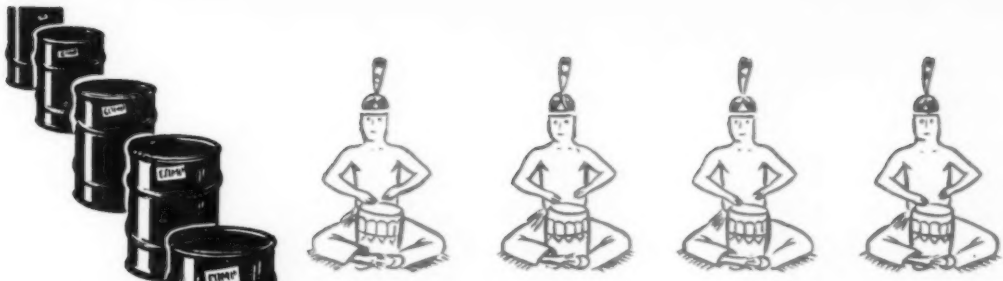

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WITH A PHENOL COEFFICIENT OF 3.5 F.D.A.

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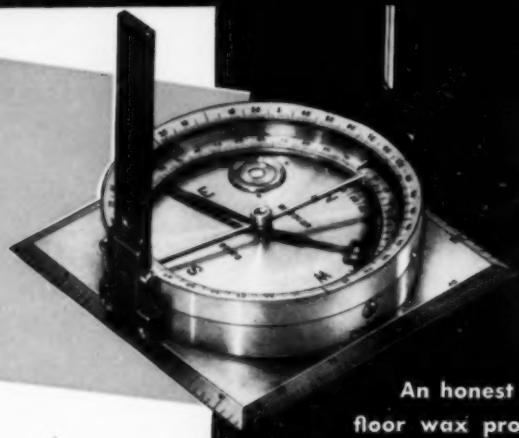
A GUIDE

TO WAX PRODUCTS PURCHASING FOR PRIVATE BRAND RESALE



An honest appraisal of floor wax products as we see it is offered to guide wax buyers who want the best quality money can buy...

SELF POLISHING WAXES

Candy's Supreme—Candy's Supreme Special AS
Candy's DeLuxe—Bright Beauty—Candy's Supreme Special WR
Candy's Supreme Special WR-AS—Candy's No. 640
Seven floor waxes that *are* all-around top quality for any given traffic condition. Each imparts the finest protection and beauty to floors for which they are best suited.

Bright Beauty FLOOR CLEANER

An outstanding material for removing even the heaviest wax film and dirt. . . . Brings neglected floors "back to normal." The *right* cleaning agent to insure the most efficient floor maintenance.

Bright Beauty CREAM FURNITURE POLISH

A cream furniture polish that spreads easily, polishes without excessive effort and imparts a deep impressive lustre. Too, it permits *repeated repolishing* with a dry cloth saving reapplication time and again; truly a very economical polish of very highest quality.

Bright Beauty PASTE WAX

A paste wax that is properly blended and refined from excellent quality solids and solvents that produce the best drying time and thorough evaporation. A wax that is easy to handle, having "creamy" consistency and stability throughout its stocking and usage period.

Bright Beauty LIQUID (spirit) PREPARED WAXES

Complete line of spirit dissolved waxes that meet a wide variety of demands for durability, color and types of usages. Each its own "Dry Cleaner," they keep a surface waxed with a superb protective coating necessary to many difficult surfaces such as certain floors (where adaptable) bars, wallpaper, etc.

Bright Beauty GLASS POLISH & CLEANER and SILVER POLISH

As a Glass Cleaner (pink color) it applies evenly with little effort, wipes off easily with negligible "powdering" and produces an undeniable "feel" of cleanness to glass that is actually true in fact. Different in color only as Silver polish, it imparts a highly desirable lustre to all silver *without* abrasion and can even correct the abuses of scratchy, "quick-polish" inferior products.

Bright Beauty DANCE FLOOR WAX

Basic advantages are freedom from "balling up," thus does not gather dirt and impregnate the floor with hard spots difficult to remove . . . also is free from dusty effects. Adds the protective quality to expensive ballroom floors that means more "floor-years" to users everywhere.

Bright Beauty Heavy Duty PASTE CLEANER

Really *cleans* and *scours* more effectively and quicker than most scouring powders. Depending on application, it can clean to perfection even painted walls to provide a suitable repainting surface. 100% active, free from excessive abrasive quality, it frees almost every surface from all forms of foreign matter to perfection.

1. BEAUTY AND DURABILITY

should be considered together. Initial appearance is important, but for a waxed surface to remain beautiful it must be durable. Durability depends not only on resistance to the abrasion of traffic, but even more so on resistance to the collection of dirt and to discoloring traffic marks. Durability is really measured by how long the waxed surface maintains a nice appearance before the necessity of complete removal and re-waxing.

2. ANTI SLIP

qualities are necessary in a good wax as a matter of safety underfoot. This important quality does not necessarily require the sacrifice of beauty and protection which are the foremost original reasons for the use of a wax. Look for the proper balance—a wax film which is not excessively slippery yet which is not tacky and does not excessively collect dirt.

3. WATER RESISTANCE

is important, particularly when considering the possibility of wet traffic and the necessity for frequent damp mopping for the purpose of removing surface dirt. Overdoing this quality means greater difficulty in applying multiple coats of wax and may seriously increase the difficulty in removal when complete cleaning and re-waxing is necessary. Water resistance is important, but so is the quality of removability.

4. SOLID CONTENT

when expressed in percentage is not nearly as important as the *quality* of the solid content. When considering good quality, 12% of solids answers most needs for good planned maintenance programs. Two applications of 12% will give better results than one of 18%. However, the more concentrated material is useful for some programs of maintenance and particularly on "washed-out" floors, etc. Over-waxing should be avoided so that periodic complete removal will not be too difficult.

5. CARNAUBA WAX

is still the most important basic ingredient in our floor waxes. When refined and compounded with other important ingredients and "KNOW HOW," it aids materially in producing the most important features of a good floor wax... ALL AROUND QUALITY OF PERFORMANCE.

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We do not compete with our jobbers for consumer sales. We sell only to distributors, except for experimental accounts in Chicago essential to research.

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Candy & Company, Inc.

2515 W. 35th ST., CHICAGO

SOAP and SANITARY CHEMICALS

Volume XXVII
Number 6
June 1951

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Hydrogenated, distilled fatty acid equivalent to general types of "triple pressed stearic." It has exceptional color and odor, high stability and long shelf life. It's a premium grade for use wherever U.S.P., National Formulary and similar specifications must be met. Used as an emulsifying agent for hand lotions, creams, deodorants, brushless shave creams, cleansing creams, cold creams, medicated creams, mascara, etc.

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AVERAGE SPECIFICATIONS

PRODUCT	MYRISTIC (C_{14})	PALMITIC (C_{16})	STEARIC (C_{18})	OLEIC (C_{18})
Formula 200	6.0%	20.0%	70.0%	4.0%
Formula 300	6.0%	21.0%	70.0%	3.0%
Formula 400	6.0%	6.0%	85.0%	3.0%
Formula 1000	6.0%	20.0%	70.0%	4.0%
Formula 1500	6.0%	20.0%	60.0%	14.0%

PRODUCT	FFA	TITRE°C.	IODINE VALUE	ACID VALUE	SAP. VALUE	COLOR 5¼" Lovibond
Formula 200	99-103	56-57	6.0 Max.	196.9-204.8	196.9-204.8	4.0/1.0
Formula 300	99-103	58.0 Min.	4.0 Max.	196.0-204.8	196.9-204.8	4.0/1.0
Formula 400	99-103	60-64	3.0 Max.	196.9-204.8	196.9-204.8	4.0/1.0
Formula 1000	99.0 Min.	58	6.0 Max.	196.9 Min.	196.9 Min.	35.0/5.0*
Formula 1500	99.0 Min.	54-56	15.0 Max.	196.9 Min.	196.9 Min.	35.0/5.0*
						*1" Cell

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Owens-Illinois has more than 1400 different sizes and styles of stock-mold Duraglas bottles to choose from. And you'd never guess they're stock items once we add a smart closure in the right color and set them off with eye-stopping labels.

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Duraglas bottles are protectors of quality

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WARFARIN has been tested and used successfully by many pest control agencies and government bureaus.

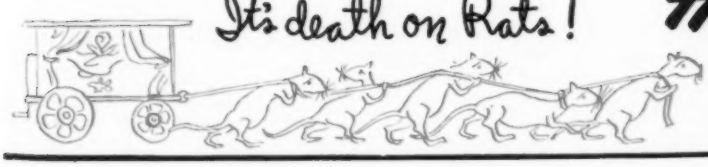
THEY WANT IT!

THEY LOVE IT!

THEY DIE FOR IT!

Use RAM to

Help eliminate the huge losses suffered in this country every year from rats and mice — they not only destroy millions of dollars in property — but spread disease and sickness.



It's death on Rats!

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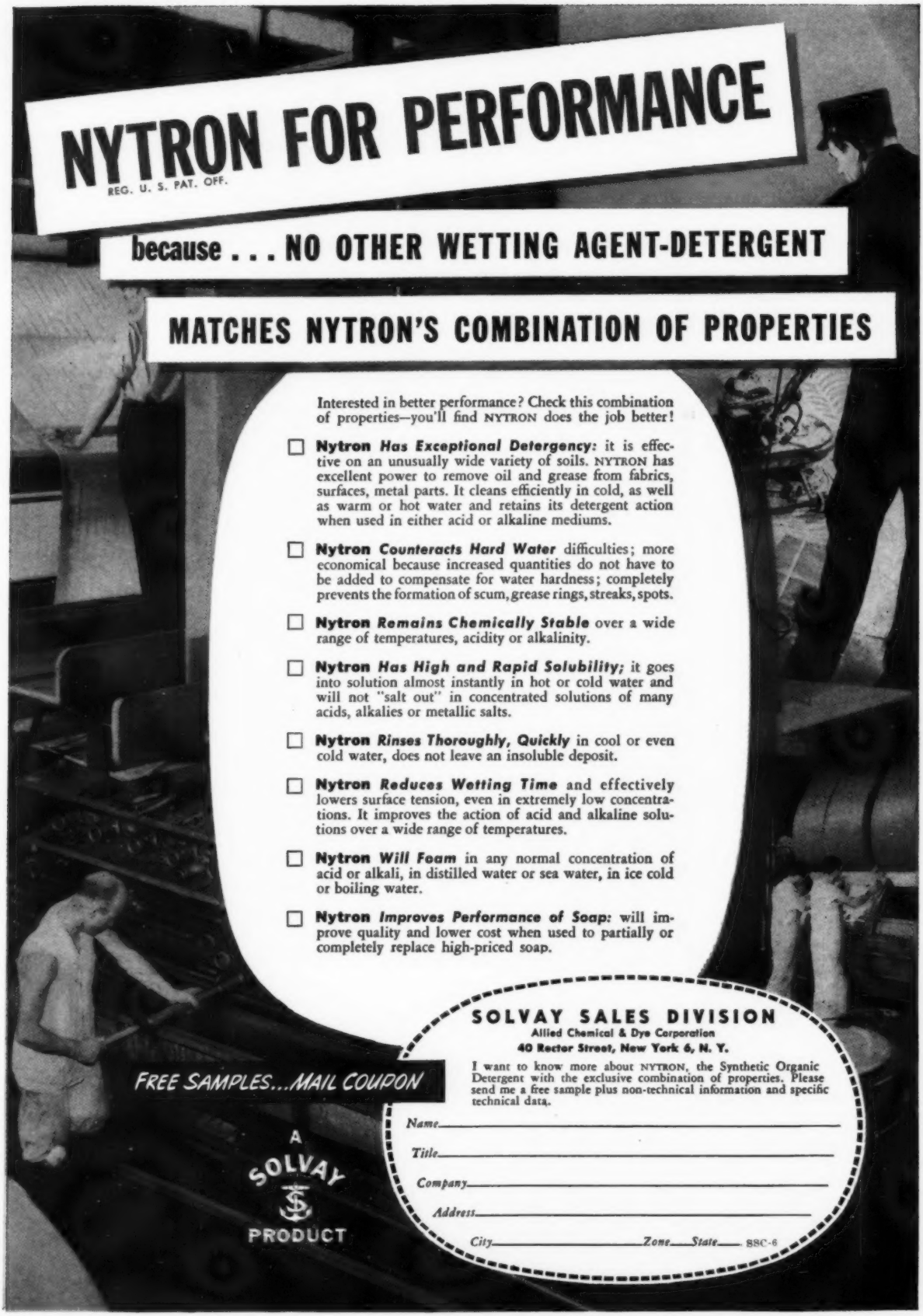
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Interested in better performance? Check this combination of properties—you'll find NYTRON does the job better!
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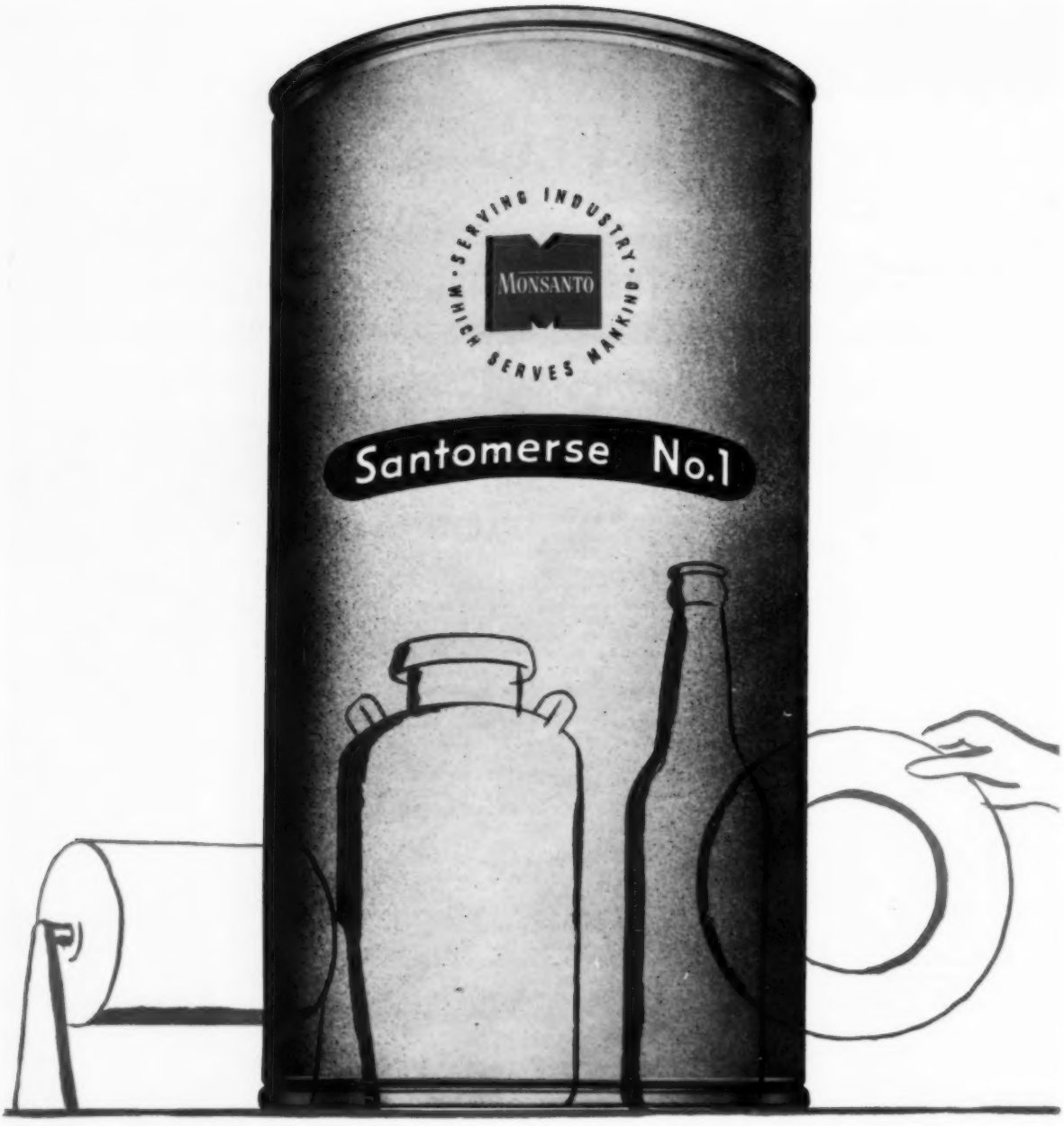
City Zone State 88C-6



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Come rain or shine, radically new SUPER SAFE CETOX gives genuine security underfoot on dazzling, beautiful floors.
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Here's important protection all year long—especially throughout year's 30% inclement weather when the risk of slips and falls is greatest. Snow, sleet and rain tracked onto a waxed floor acts as a lubricant underfoot. SUPER SAFE CETOX ends this hazard. Foot traffic has solid, secure footing on a CETOX dressed floor . . . whether wetted or dry. You can't slip on SUPER SAFE CETOX, because the slip is chemically hydraoxated out of the raw material carnauba. No silicas or abrasives added! It's super safe! Because it's hydraoxated!
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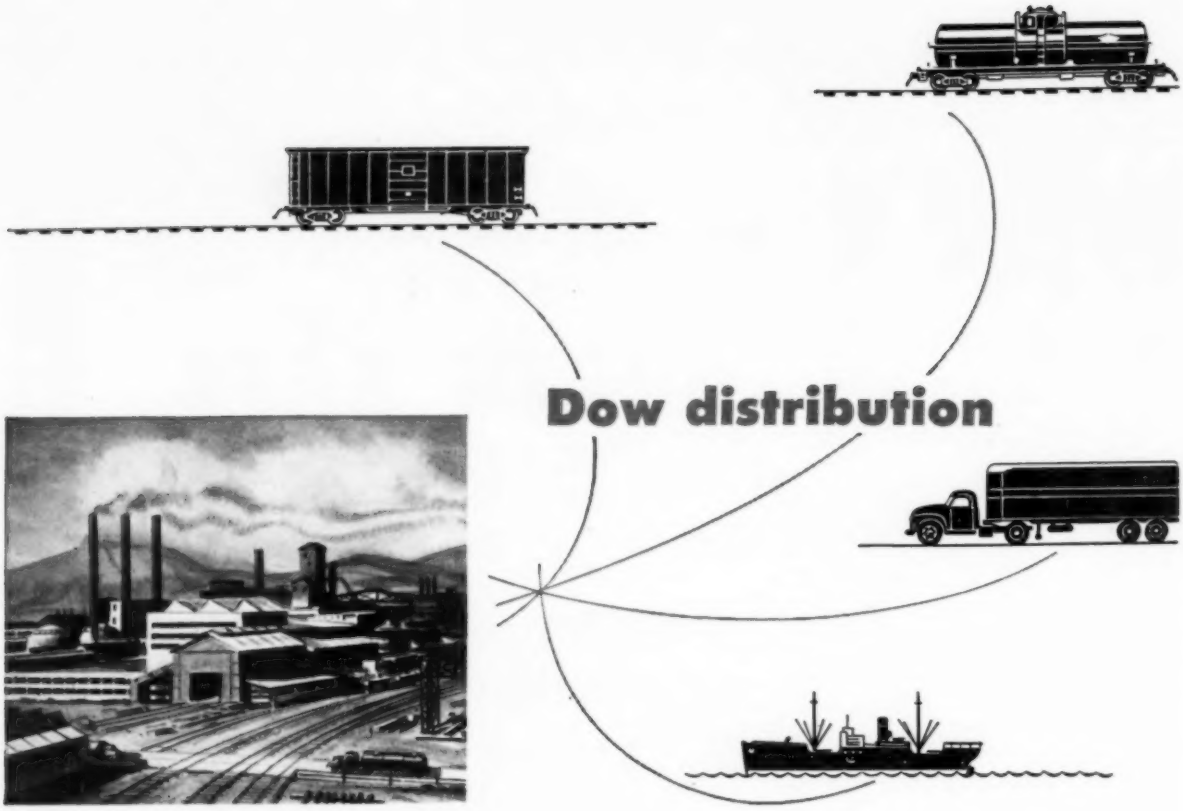
Listed anti-slip floor treatment material
by Underwriters' Laboratories, Inc.
Chemical Service
of Baltimore
HOWARD & WEST STS. ★ BALTIMORE 30, MD.



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CHEMICALS

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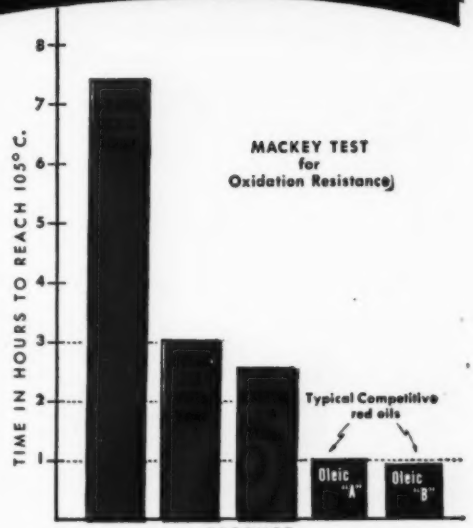
The Emersol Elaines are the most stable oleic acids commercially available. Results of the Mackey Test—a convenient way to measure resistance to oxidation—confirms this important fact. This outstanding oxidation stability is present in all single distilled grades (Emersols 210, 211, 212) and double distilled grades (Emersols 220, 221). Outstanding in every desirable characteristic, Emersol 233 LL Elaine (Los-Linoleic) is the purest, most stable oleic acid ever offered in commercial quantities . . . and it is available *only* from Emery.



Longer times indicate higher stabilities

...carries through into Emery Oleic Esters

...propyl and triglyceride esters of oleic acid are ...liquids reflecting the unusually excellent ...ersol Elaines from which they ...also exhibit low pour ...icants, spe-

Your Best Buy —Every Way!

Because Emery Oleic Esters reflect the unusually excellent stability possessed by the Emersol Elaines, they resist rancidity and oxidation, and usually produce lighter colored, higher quality end-products.

Next time get the most for your money—Buy Emery!

CHECK THESE SPECIFICATIONS

Product	Acid Value	Saponification Value	Iodine Value (Hanus)	Titer, °C.
Emersol 233 LL Elaine (Los-Linoleic)	195-200	195-200	90-100	5-7
Emersol 223 Methyl Oleate	0	176-182	85-95	5-7
Emersol 222 Propyl Oleate	0	156-162	75-85	5-7

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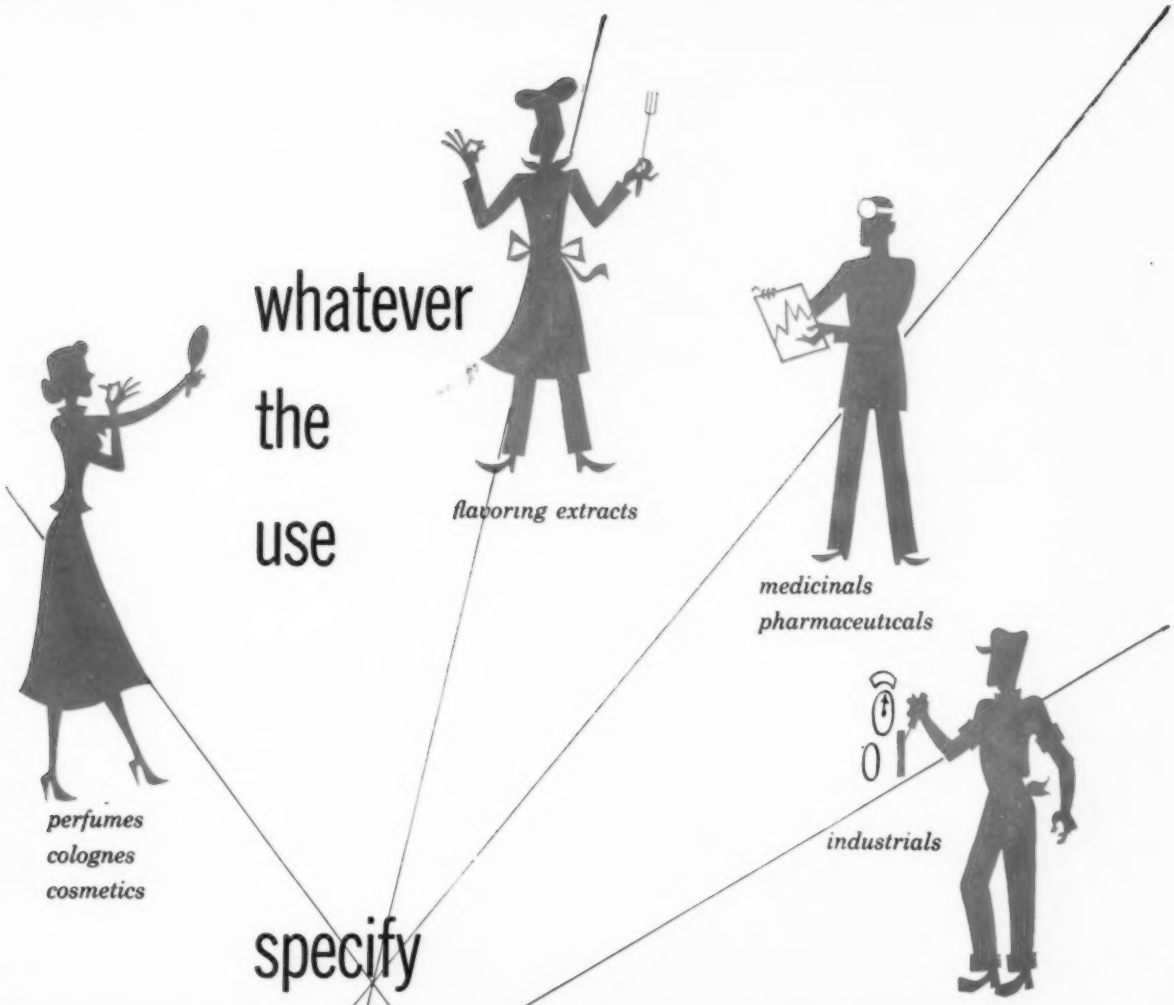

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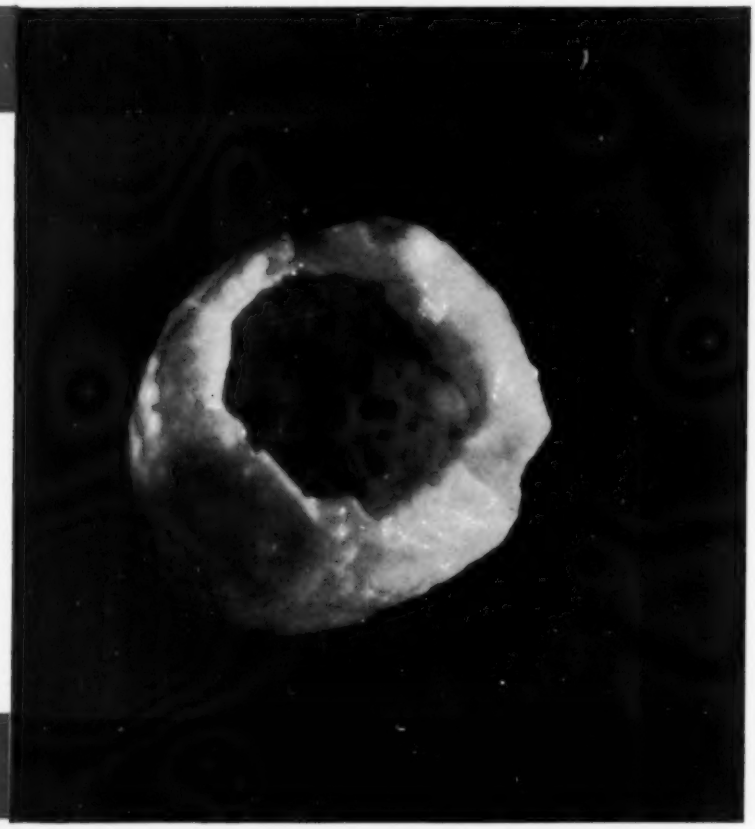
Magnification of an ULTRAWET SK *bead.*

COMPOUNDING PROBLEMS?

Look into
ULTRAWET SK



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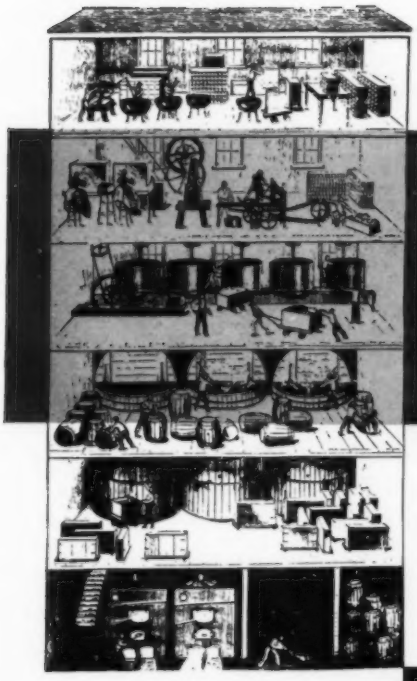

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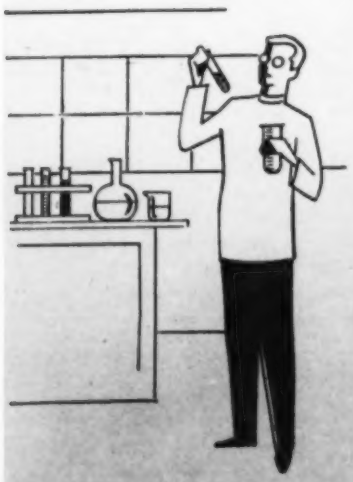

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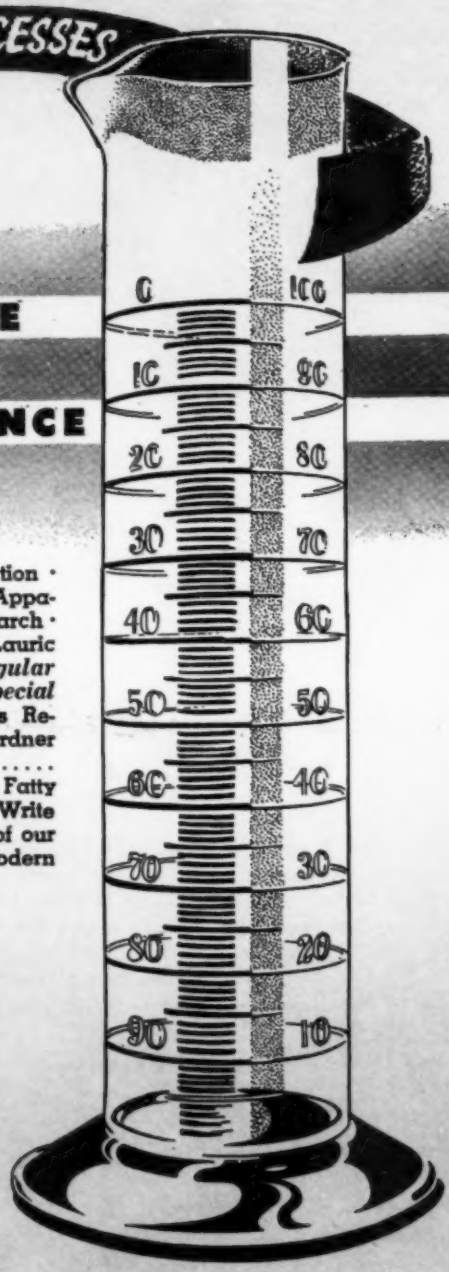

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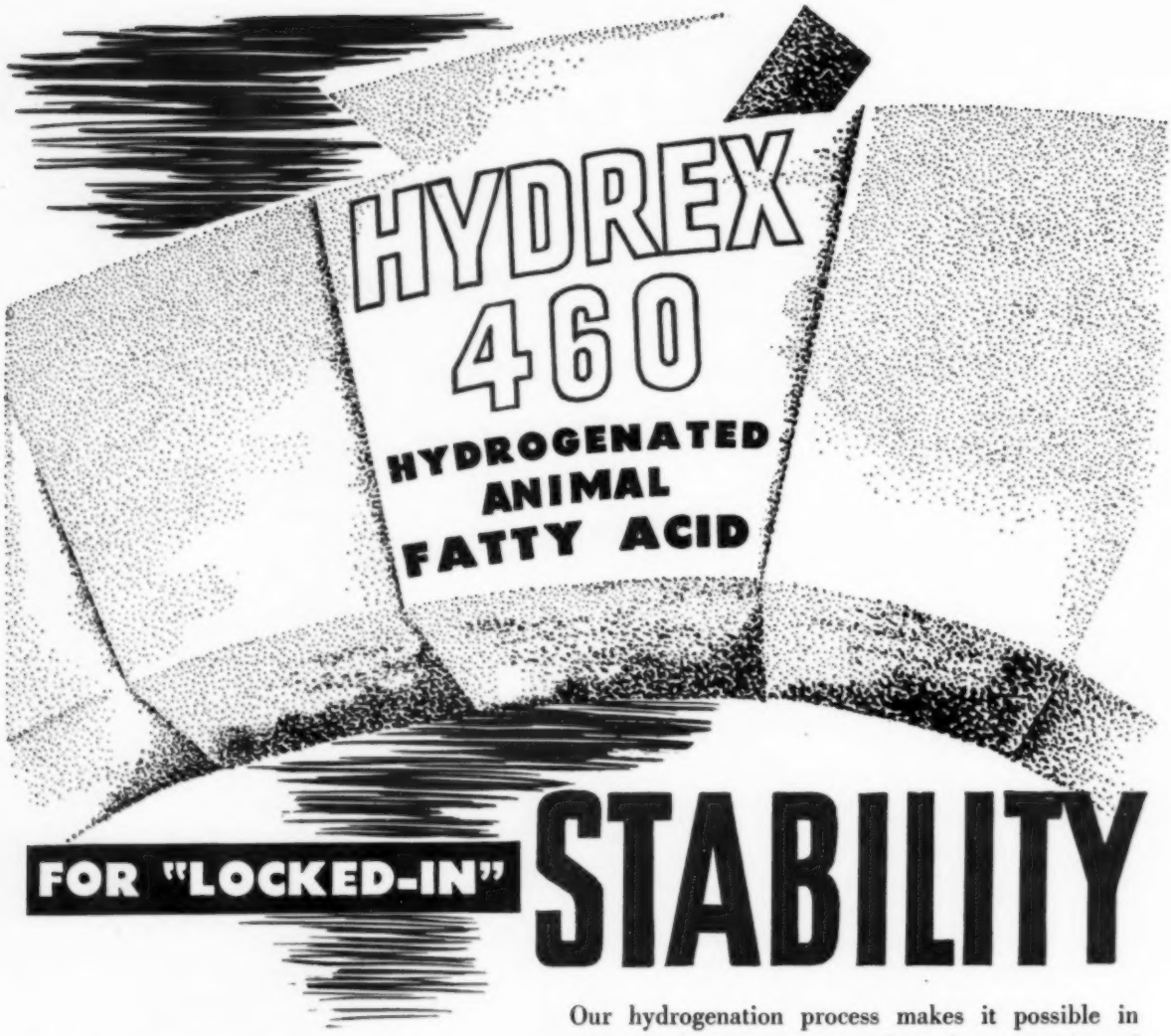

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AS THE EDITOR SEES IT

FOR the second time within less than 10 years the U. S. government has embarked on a program of price controls which are again testing our ability to by-pass the law of supply and demand. On May 28th, prices on an endless list of manufactured articles were scheduled to be rolled back to pre-Korean War levels, with the proviso that direct increases in labor and raw material costs may permissibly be tacked on to the pre-Korean figures.

Obviously most every manufacturer has had such increases in his costs. Obviously too, the job of checking these increases accurately is a mammoth one, both for the manufacturers concerned and for the government. Equally obvious is the fact that the whole program must end up in an awful tangle of confusion, like all such schemes which attempt, through operation of a man-invented formula, to circumvent economic laws.

One well informed executive in the chemical field observed aptly a few weeks ago that after May 28th most manufacturers were either going to stop selling, face bankruptcy, or become violators of the price ceilings. He pointed out that the job of determining permissible increases in former selling prices, and having them checked and okayed by OPS, is just too tremendous to be done on such short notice. He predicted there must inevitably be some postponement in the effective date of the roll-back order. The alternatives, he indicated, are withdrawal from the market, or mass violation of the price control regulations.

Perhaps fortunately for the bulk of the soap industry, price control over its products has been taken care of separately in a specific order,—CPR-10, and we hear over the grapevine that potash and industrial soaps too may shortly be removed from control under CPR-22. But the inevitable confusion cannot help but have its effect on soap manufacturers too. They buy as well as sell, and what happens when confusion strikes their suppliers? Unrealistic price controls led rapidly to black markets, and disappearance of goods from normal channels, the last time we tried. We have a feeling the result will be no different this time.

ALTHOUGH sales channels for soaps, detergents, and cleansers may open up during the next month or so, the end of May still saw too much of these materials in the warehouses of both manufacturers and distributors. A drop-off in consumer demand ninety days ago did not take long to block up distributing channels and back right up on the manufacturer's loading platform. As yet, the flow of finished goods to users, both industrial and household, has not resumed on anything like previous proportions. Side complications such as excess stocks of raw materials and containers, where and how to store them, have added a headache or two of their own.

Frankly, we don't believe that there was a soaper, large or small, who back during 1950 failed to over-sell most of his customers. And the customers were anxious and willing to be over-sold, feeling certain that the scarcities of 1943-45 were upon us again. Now, it seems that everybody all the way down to Mrs. McGuff, our average housewife, has plenty of soap or detergent on hand and is just as certain that scarcities are a figment of somebody's imagination. Industrial detergent users, too, are working on their warehouse stocks. So why buy any more right now? Let's cut down. And, thus during the second quarter of the year, soap and detergent sales have taken it in the neck. What else could we expect?

As stocks are reduced, demand for soaps and detergents naturally will return gradually to normal levels. In fact, we imagine that under present general world conditions, everybody

where possible will continue to carry larger inventories than in 1949. But, warehouse walls, we have a hunch, will no longer bulge as they have during recent months.

WITH each passing year, American business seems to become more prone to scream to Washington for help as soon as things are not to its liking. Every time we go to Washington, we see more and more of this. The descent upon Washington by representatives of almost every industry is not primarily in behalf of the defense effort as is so proudly proclaimed, but, we suspect, is chiefly to grind axes of one sort or another. In the eternal jockeying which goes on, most businesses are down there to obtain a more favorable position, be it by law or regulation. No industry seems adverse to accepting government props of one sort or another.

All of this is bad, very bad, business. As pointed out recently by Charles R. Hook, chairman of Armco Steel Corporation, industry invites socialism by running to the government for so-called controls to solve problems which it should solve itself. Thus, industry is aiding and abetting the very conditions which give rise to even greater problems than those of the moment. It would seem that business on the whole has lost any guts it used to have and has become a cry baby.

Not long ago, an official of NPA told us to advise people to stay away from Washington unless they were forced to go there. "Tell them for the love of Mike at least *to try* to solve some of their problems before climbing on the first train for Washington. Tell them the government can't wet-nurse everybody all the time. And no matter what the problem is, believe me, they can solve it better themselves."

Back a few years ago during World War II one of the large can companies took the bull by the horns and instituted a system of allocations of its own which it enforced fairly and sensibly in the light of its intimate knowledge of the problems involved. It worked. And, likewise, cooperative solution of industry problems within an industry can work better than any government plan. The departments and bureaus of Washington admit it.

For a long time now, business has been protesting against government interference and proclaiming the merits of free enterprise. But it would seem that the habit of running to Washington for help every time something not to its liking happens, has become something of a national pastime of late. If we want socialism in America, we appear to be on the right track.

WHEN a number of leading soap and tallow producers were subpoenaed recently by the Department of Justice to a hearing supposedly to look into possible violations of the Sherman Law, we surmised that another "fishing expedition" was in the making. The list of those called comprises some fifteen or sixteen firms and the soap industry trade association as well. The nature of the proceeding, as far as can be determined, appears sufficiently vague to be classified as "fishing" at this stage. What develops later, if anything, will be duly recorded.

WIDE gyrations in carnauba wax prices can be highly inconvenient not only to manufacturers of floor waxes and polishes, but to Brazilian carnauba producers and shippers as well. A fair, stable price for carnauba would make the life of American polish manufacturers and wax importers a lot easier. The danger of a price collapse is always a menace to those who hold stocks acquired at high prices. The old Wall Street adage, "what goes up must come down," and vice versa might apply with great disadvantage all around.

Experience would say that high carnauba prices will bring out a larger production this year. Palm stands, which it did not pay to work a year ago, are being worked this year. By September, aspects of the market could change. Larger production and a demand reduced by high price might swing the pendulum too far in the opposite direction.

Floor wax manufacturers would like to see above all, we believe, something akin to long-range carnauba price stability. Even a price slightly above average, if stable, would be more welcome than the speculative uncertainties of the past few years. And if Brazilian shippers do not lend their aid to this end, we fear, they eventually will be the chief losers. For, every time carnauba skyrockets, the tendency is to cut down further on the use of the wax,—eventually to a point where substitutes may take over in full.

C. S. KIMBALL

Soaps and Syndets —Present and Future

F. D. SNELL

By Foster Dee Snell and Cyril S Kimball*

Foster D. Snell, Inc.

THE present limited availability of everything — except tax blanks — is dependent on various factors. At the consumer level it is usually psychological, leading to consumer inventories. How many of you have bought another suit and a half-dozen shirts that would otherwise have been purchased in late 1951? There is no criticism implied in being forehanded. And in many cases your wives have a couple of extra packages of detergent and a few extra bars of soap on hand. One extra package of detergent—soap or "syndet"—per family is over one per cent of the total U. S. production in 1950.

Secondly, there is a relatively minor amount of withdrawal of materials from the market by government demand. Overall, even by the end of 1951, that level does not appear to be potentially very serious. The main cause of shortages is the speeding up of an economy with the greater diversion of products to necessary working inventories and to scare hoarding. The total detergent market is relatively static, and has been so for a decade. Only new uses for detergents—not just replacement of one by the other — will expand the over all production required.

Detergents

THE basic answer to what we shall do about shortages in the field of detergents is very simple. Every time there is a lack of something from a natural source, we in the United States make it synthetically. Let us not quibble about the extent to which a material is natural or synthetic, meanings will be obvious but not necessarily semantically accurate.

We should remind ourselves occasionally that as a nation we have the highest living standard in the world. As a part of this, we are the cleanest people in the world. And statistically we are even getting a little cleaner! Twenty years ago we consumed 23 pounds of detergents per capita, last year, 27 pounds. I used the general term "detergent" to cover both soap and syndet. Twenty years ago detergents were soap—period.

Year to year fluctuations are difficult to interpret so let us look at 1950 as compared with the average for the decade, 1941-1950 inclusive. Bear in mind that includes World War II. The average annual detergent sales in that period approximate three billion pounds. Those of the past three years were respectively 2.9, 3.1, and 3.5 billion. The latter probably includes considerable inventory accumulation at the consumer level.

Production of soap means consumption of fat and alkali, with byproduct production of glycerine. Production of syndets means consumption of lauric acid oils or of aromatic hydrocarbons plus straight-chain hydrocarbons. Either form of syndet may involve consumption of chlorine or ethylene oxide. With rare exceptions it does involve surfuric acid, caustic soda, and molecularly dehydrated phosphates.

The United States produces two billion pounds of tallow a year and uses about 80 per cent of it for manufacture of soap. The amount used in syndets is negligible. Since tallow is a byproduct rather than a primary product it follows that the price fluctuates radically according to demand. That is not true of syndets or of the alkylate from which they are made.

For 1950 let us see what could have happened were it not for syndets. The production of soap equivalent to the detergent production for that year would have required an additional 0.6 billion pounds of fats. That should be explained a little. A pound of fat-derived syndet requires less than a third of a pound of fat for its production. A pound of soap requires on the average 0.7-0.8 pound of fat. If all fat-derived, the syndets would have saved 0.4 billion pounds. The syndets were 54 per cent from petroleum in 1949 and more to an unidentified degree in 1950. It follows that saves something over another 0.2 billion pounds of fat.

In most World War II years fat shortages led to soap shortages. This situation was continued after hostilities ended. War having made the fat supply highly capricious, it required several years to increase the supply of animals to normal and to unscramble the neglected or damaged oil-seed plantations.

It seems reasonable, therefore, to predict for the next few years under the accelerated defense planning that there will be further reduction in fat consumption for detergents and no more than a temporary shortage of detergents due to a corresponding shortage keyed to some ingredients. More specifically, except where bottlenecked by heavy chemical shortages, to be discussed later, we can expect syndets to replace such soap deficits as may appear. This factor bears directly on the food supply. While fats for soap production are refined only to an inedible grade, much is refinable

*Before 37th Mid-Year Meeting, Chemical Specialties Manufacturers Assn., Chicago, April 30, 1951.

for edible products. So this also predicts a more generous availability of fats in the United States due to the current revolution in detergents.

Put in another way, there are now potentially more than three 5-pound cans of additional shortening available for every family in the United States annually due to the saving of fat from soap manufacture and its replacement by syndets.

Soap is handicapped by its major raw material being a byproduct. To illustrate, let us do a trial calculation.The price of tallow advances from 16¢ to 24¢ per pound. The cost of soap raw materials has thereby been increased about 5¢ per pound of average production. Correspondingly let us say the price of alkylate increases from 16¢ to 24¢ per pound. The cost of syndet raw materials has thereby increased 2¢ per pound of finished product production. Manufacturers are always partial to stable raw material prices. Parenthetically, that does not mean that new plants are not put up for greater efficiency. Each of the "big three" has put new million-dollar units into operation within the past year for detergent production and two were soap plants.

Soap Stock

THE price picture on inedible tallow is typical. In the course of the past three years it has dropped from 18 cents to 6 cents and returned to 18 cents. Coconut oil moved correspondingly. What is ahead can be roughly stated as much less serious in its cost implications than it would have been if the price had to draw into the market an additional 0.6 billion pounds. Of course that is greatly influenced by demand for edible fats. You see I still believe in the law of supply and demand. Present price levels for soap stocks are such as to give such encouragement to petroleum-derived syndets as to predict little further increase in soap-stock prices barring a tremendous price inflation. The best short-term guess—for say 18 months—is that soap stock prices will decline moderately from the present levels, that present levels represent scare buying to some extent.

Every pound of soap yields around eight-hundredths of a pound of glycerine. The price of glycerine affects the price of soap. To illustrate by an extreme case, with 24¢ tallow and $3 a pound glycerine the soap would become the byproduct and could be sold at little more than the cost of packaging and transportation. I said that was an extreme to illustrate a point. A pound of syndet rarely is accompanied *per se* by any glycerine production, the exception being limited types of fat-derived products counterbalanced by other syndets which consume glycerine.

When the trend toward syndet production became evident, it favored synthetic glycerine. In 1950, 35 million pounds were so produced, equivalent to over 15 per cent of the national supply. It wasn't enough. The price of 23¢ a pound at which it was originally available, with an escalator clause, roes to a current quotation of 54¢ a pound. What it sells for on contracts we do not know. The price is such as to call for a planned increase of at least 50% in production in 1951, thus providing glycerine equivalent to well over half of the 1950 syndet production. Steps for that increase were taken in the first half of 1950. On the basis of final 1950 syndet production, to say nothing about probable 1951 expansion, this should be further increased. Observers describe the process as operating so smoothly that reasonable further expansion is not too difficult. Of course it requires plant and chlorine. A reasonable degree of availability of glycerine with no more than moderate further increase in price seems predictable for the next several years. Stated differently, dollar glycerine appears improbable unless caused temporarily by stockpiling.

Syndets

THE syndet picture is simple. The potential demand existed for a matter of years hampered by lack of availability of raw materials, which are numerous and varied. Finally production hit its stride with 0.4 billion pounds in 1948, 0.7 billion in 1949, and nearly 1.1 billion in 1950. Expansion in 1951 by another 0.4 billion pounds is improbable because of benzene shortages to be discussed later. Approaching that amount as a limit, somewhat more modest current expansion is an expectation this year. Consumer acceptance or necessity could easily raise the total to 1.5 billion by the end of 1952 and in excess of two billion pounds in the relatively indefinite future.

Currently in consumer channels the syndets get half of the market in hard water areas and 10% in soft water regions. Some of our largest populations have soft water supplies. Were that not the case the soap market would potentially be even more restricted.

One cannot produce a product without facilities. This year will see completion of 2 million dollars worth of expansion for General Aniline and Film at Grasselli, N. J., and Rensselaer, N. Y., with others for U. S. I., a Lever Brothers plant mentioned earlier, Purex, and others.

Benzene

THE outstanding alkylate is made from about a C_{12} straight chain hydrocarbon and benzene. Until further research has solved problems of hygroscopicity, toluene alkylate is off the market. At present eight companies, largely petroleum makers, produce alkylate. The market price of it has varied only in the range of 14-16¢ a pound while soap stock varied from 6-18¢ a pound. On the average, less than one pound of alkylate is currently used per four pounds of finished syndet. But alkylate production is bottlenecked by benzene.

Currently the demand is for roughly 60 million gallons of benzene over production. Of course alkylate is not the major potential user. Estimates of 212 million gallons available for 1951 include imports of 25 million gallons. The figures for this talk have been thrice revised and by now will probably be disagreed with by the knowledgeful part of the readers. In any case, they will be incorrect next week or the week after—since such estimates change rapidly. There will be six million gallons from Shell and a like amount of new capacity from Pan Am. Equipment for more will be allocated but will take time to fabricate

Ample supplies of soap at prices near or slightly under present levels are predicted for the next few years as a result of lessened demand. Synthetic glycerine may fill the gap left by reduced output from soapmaking, but at higher prices. Synthetic detergent production seen less.

and install. The gap is closable but not immediately. A minor source will be further recovery from coal-tar distillation and coke-oven operation such as that planned by U. S. Steel Corp. Inefficient recovery operations are believed wasting 10-20 million gallons. The balance of roughly 40 million gallons must come from petroleum reforming operations. Scuttlebut says that allocations of equipment for production of 100 million gallons will be requested and that for 40 million gallons allowed. That means that 1951 will be a tough year on the benzene front. One catch is that such benzene is going to be expensive. Enlightened guesses indicate 50-60¢ per gallon depending on how much further equipment costs become inflated. Gone are the days of excess benzene being worked off in gasoline.

No serious shortage of the nonpolar chains for alkylate synthesis appears on the present horizon. Currently, one can say in terms of broad competition that soap stock has here as competitors closely cut kerosene and chlorine for keryl chloride on the one hand, and tetrapropylene on the other. Both types are used to produce alkylate at present. Tributylene has joined toluene as inapplicable pending research improvements. An increase in price of benzene from 30¢ to 50¢ per gallon means roughly an increase of one cent a pound in alkylate raw material cost, perhaps two cents in selling cost. But that is less than a cent a pound increase in cost of syndets.

This alkylate picture is not brightened by current plans for expansion of syndet production internationally with in many cases the current plans calling for an alternative raw material until such time in the future as alkylate becomes available. At the present time only two substantial alkylate plants are located outside of the United States, and of course their capacity is sold. American producers are supplying some foreign sulfonators.

Phosphate Builders

THE term phosphate builders is used and the term extenders avoided for our next topic because often the surfactant plus builder is more efficient than the surfactant alone. This applies to both soap and syndets. Light-duty syndets are not new and have saturated their field. Both heavy-duty soaps and heavy-duty syndets are built with molecularly dehydrated phosphates, soap to roughly 20 per cent and the syndets often to 50 per cent. The builders are usually tetrasodium pyrophosphate or sodium tripolyphosphate.

Lack of availability of such builders deferred syndet expansion in the late 1940s. Production caught up with consumption in early 1950 so that completely free competition between soap and syndets existed for several months. Then the race to catch up on phosphate builders was on again with probable diversion of some elementary phosphorus from this use to that of the military. Phosphorus capacity takes a long time to build and is expensive. The phosphate capacity required thereafter is minor in cost and time required.

As usual, the U. S. is correcting that situation. A third Westvaco furnace is due to go into production shortly. Monsanto's sixth furnace just completed in Tennessee is the largest in the world. New Victor production is coming in now. If all goes well, American Agricultural Chemical Company will soon build a plant in the south. New production from Monsanto at a new western location is believed to be two years off. But barring unexpectedly large government demands for elemental phosphorus, the 1951 tripolyphosphate will far exceed the 0.4 billion pounds of 1950.

Heavy Chemicals

STARTING at soap stock here we are at heavy chemicals. They compete? Oh, yes! A sulfur shortage will increase fat consumption for soap and cause higher edible fat prices. The sulfur shortage was suddenly upon us due to increased demands and decreased foreign burning of pyrites. Now the trend has to be reversed and the export of 1.5 million tons of elemental sulfur radically curtailed. Some guesses are to a million tons, some foreign guesses to a half-million tons. The sulfur picture is not bright and the end of the shortage is not in sight.

The limited availability of chlorine and caustic soda is largely the aftermath of protracted strikes, although demand has increased. The effect of such limited availability can be the same as a shortage of sulfuric acid. However, the expansion of the electrolytic branch of the alkali industry in 1951 will add a half-million tons of caustic to the supply.

Conclusion

OVER all, it appears that lack of increase in demand and possible decrease in demand can be expected to result in free availability of soap over the next several years at price levels not substantially above the present ones. Synthetic glycerine expansion will fill the gap left by soapmaker's glycerine but at relatively high prices.

Prospects for expansion of syndets over the short term look less bright. Shortages of benzene, sulfuric acid, and molecularly-dehydrated phosphates must all be relieved to permit free expansion in that field. It is to be expected that one or more of these will delay continuation of the trend of the past three years, but that within the next several years the detergent industry will become half soap and half syndet. When that point is reached will be soon enough for turning our glasses on the horizon to see what further changes are in prospect.

West Disinfecting Co. Photo

HAND CLEANERS

IF THE past is any index, occupational dermatitis again will become a major problem as the defense industries move into high gear. Although much progress had been made in World Wars I and II and in the period between and since, there is much to be learned and an extensive educational job to be done in combatting skin diseases.

Obviously, the skin receives the first onslaught of industrial exposures. Describing it as the "fragile element in industrial production," Morris (1) has pointed out that of all the organs affected by industrial chemicals, none is so exposed as the skin. Moreover, as remarked by Macaulay, (2) there is scarcely a single occupation which does not present some hazards to the skin. He notes that bakers, building cleaners, maintenance men, cement workers, chemical workers, dishwashers, dye workers, electroplaters, gardeners, machinists, painters, photographers, tanner and "soda jerks" are but a few of the groups exposed to high cutaneous hazards. In wartime, the explosives industry also becomes an important consideration as a causal factor in occupational dermatitis. (3)

In a broad sense, the term occupational or industrial dermatitis refers to any irritation or inflammatory process of the skin developed by a worker in the course of his employment. (4) There are some who would class these dermatoses among the "minor" occupational disorders, but their frequency and cost actually make them of greater all-over importance than some major diseases. Thus, it is generally recognized (5,6) that industrial dermatitis constitutes about 65 per cent of all occupational diseases.

This point is emphasized by Schwartz, (7) an authority in this field, in his statement that occupational dermatoses comprise about two-thirds of all occupational diseases reported by compensation boards. Actually, says he, there are many times more cases of occupational dermatitis than are reported because most cases are not sufficiently severe to require stopping work for a week or more. Although the incidence rate may be as high as 10 to 15 per cent in some industries, (8) on the national average about one per cent of all workers will be found to have an occupational dermatitis at any given time.

Of course such a high incidence, running to perhaps several hundred thousand cases per year, (4) is costly. A worker with an occupational rash, says Downing, (9) is an expensive liability. Apart from the loss of time and wages, the compensation and medical expenses may amount to several thousand dollars. Even a mild eruption may cost from two to three hundred dollars. According to Hanfling, (10) occupational dermatoses make up 3 per cent of all compensation cases at an estimated cost of about $100,000,000 per year. This estimate, high though it seems, is in line with the figures given by other experts. (7, 11)

Industrial dermatitis may be caused by mechanical, physical and chemical factors. The chemical causes, which are the most important, may be divided into two main types: the primary irritants and the sensitizers. A primary irritant, one that will affect all skins, is defined (7) as a substance which will have a direct chemical or physical action on the skin if allowed to stay in contact in sufficient concentration and for a sufficient time. The principal inorganic primary irritants include: strong acids, strong alkalis and the salts of mercury, chromium, zinc, arsenic, antimony, phosphorus and the halogens. The principal organic primary irritants comprise: acids and anhydrides, amines, solvents, petroleum, tar, and acne-producing cutting oils, tars and chloronaphthalenes.

The sensitizers are described (12) as agents not necessarily causing demonstrable cutaneous changes on first contact, but perhaps causing such specific changes in the skin of certain individuals that, after five to seven days or more, further contact on the same or other parts of the body will cause dermatitis. Among the groups of sensitizers commonly encountered in industry are: dye intermediates and certain dyes, photo developer, rubber accelerators and antioxidants, insecticides, natural and synthetic resins, and explosives. A person may also become sensitized to primary irritants.

and PROTECTANTS

By Milton A. Lesser

. . . with particular reference to products designed to reduce the incidence of industrial dermatitis

Such people will develop a dermatitis from substances in lower dilutions and shorter contact periods than required in normal individuals. (7)

Irritants' Number Grows

WITH industrial progress and the introduction of new raw materials there are constant additions to the list of substances that may be classed as primary irritants or sensitizers. Some idea of the causal picture is provided in the recent report of Klauder and Gross, (13) covering 1,673 cases of skin disease diagnosed as occupational in origin. The actual causes of the occupational dermatoses in these cases are classified in the following groups, together with the percentage of incidence:

	per cent
Primary irritants (acids, alkalis and solvents)	28.6
Trauma and accidental injury	22.6
Sensitizing substances	13.6
Wet work (water alone, soap and water, and alkaline salt detergents)	13.1
Cleaning agents applied to the skin	10.7
Petroleum products and other causes of folliculitis.	9.2
Physical and biologic agents.	2.2

Their data bring out the fact that nonaqueous solvents were the predominating causal irritants. These data also call attention to the fact, long suggested by some investigators, (14) that many cases of dermatitis are caused not so much by the substances encountered at work as by their removal with materials and methods harmful to the skin. Schwartz (15), for example, notes that it is not unusual to find workers washing their hands with gasoline, kerosene, benzol, Stoddard solvent, lye or bleaching powder in order to clean up quickly after the work day is over. Dermatitis often results from such practices, especially among workers above middle age and among those having dry or thin skins. Moreover, such a dermatitis may be mistaken for a true industrial dermatitis caused by the substances handled in the course of work.

Of course there are certain factors which predispose or heighten susceptibility to industrial dermatitis. (11, 16) Although some investigators rate them fairly high, Schwartz (7) is of the opinion that such considerations as race, sex, age and diet play but minor roles as predisposing causes. On the basis of his own extensive experience, he feels that the predisposing causes of occupational dermatitis are: (a) Lack of personal and environmental cleanliness; this including poor washing facilities, infrequent change of work clothing, and poor workroom sanitation, (b) Excessive perspiration due to hot weather, personal idiosyncracy, heavy work and others, (c) Presence of other skin diseases or abnormalities which impair the natural defense mechanisms of the skin, and (d) Allergy which, however, is responsible for less than 20 per cent of all cases of occupational dermatitis.

Recognizing that industrial dermatitis still presents a challenging problem, Macaulay calls attention to the generally accepted fact that most cases of occupational skin disease are preventable. Aside from such considerations as pre-employment selection, patch tests and other measures, the most important means for controlling industrial dermatitis follow four main lines. These may be summarized (17) as follows: (a) The elimination of irritant materials from contact with the worker, as far as is possible; by engineering control and environmental sanitation, (b) The stressing of, and provision for the personal cleanliness of the workers, (c) The use of appropriate, properly cleaned protective clothing, and (d) The application of suitable protective creams by the worker before beginning work on exposures likely to cause skin irritation.

The general measures as indicated in the first phase of dermatitis prevention and control call for enclosed processes; the use of exhaust and intake ventilation where needed; provision of hoods over sources of dusts, gases, vapors and fumes; the daily wet-cleaning of the walls and floors of the plant; and keeping equipment clean. (18) Special efforts should be directed toward keeping the work rooms and machinery as free as possible from dust and grime. (2) It has been stressed (19) that the maintenance of plant sanitation and order should be a continuous job and not be left to occasional "clean-up" campaigns. Those interested in the environmental and related factors will find considerable information in the proposed uniform in-

dustrial hygiene code. (20)

Cleanliness Important

LITTLE doubt seems to exist in the minds of experts (7, 11, 21) that cleanliness is the most important single measure for the prevention of industrial dermatoses. This includes not only cleanliness of person, but cleanliness of the room, the machines and the clothes. As stated by Mooney, (17) personal cleanliness of the worker is a very important item in dermatitis control and should claim a prominent place in any effective effort to lessen the incidence of skin trouble. He stresses that personal hygiene, such as bathing and washing, the frequent laundering of clothes, and other measures which help to keep the body clean are the first line defenses against skin infection. Macaulay (2) believes that washing and bathing facilities must be available and ample opportunity should be provided for the worker to clean himself. "The greatest protection of all," says Leggo (22) in his report on the prevention of dermatitis, "is still personal cleanliness. No amount of experimentation with creams, protective clothing or other measures will justify a neglect of cleanliness."

A high order of personal cleanliness as a means of preventing industrial dermatitis naturally presupposes the use of suitable, safe cleaning agents. As already indicated, this is not always the case and the records (23, 24, 25) show that many workers use the materials employed in their trade for hand cleaning purposes. Thus, painters use turpentine, machinists gasoline, printers kerosene, others alkaline wash powders—all capable of producing dermatitis.

Significant, therefore, is Cruickshank's (26) observation that the most important prophylactic measure is simple but efficient washing with soap and water immediately after work. Concurrence with this view is well evident in the report of the Committee on Occupational Dermatitis of the American Medical Association. (24) Here it is stated that, "The best cleaner is a mild soap and plenty of warm water." Following extensive studies on industrial hand cleaners, Klauder, Gross and Brown (23) similarly observed that it would appear that the best soap for cleaning the skin is a toilet cake soap. In a comment in *Industrial Medicine,* (27) on the most appropriate soap for factory use, it was pointed out that 95 per cent of people do not need any special kind of soap and that any good toilet soap is suitable.

However, as noted by Schwartz and Birmingham, (25) there is much loss when cake soaps are furnished, hence hard soaps are seldom used for industrial purposes where large numbers of workers are employed. Powdered soaps, they report, are more economical and constitute a large portion of industrial cleansers. Such products consist principally of a powdered hard soap, a ground scrubber and a water softener. Liquid soaps are also widely employed and are probably the most frequently used type of industrial cleaners. In the main they consist of a potassium coconut oil soap, a water softener, and water.

Cleaners Vary With Soil

BECAUSE there are many types of soil and grime encountered in industry, some of them quite tenacious, a variety of cleaners have been developed to meet the several conditions. (28) Because many cleaners possessed dermatologic dangers, Schwartz (29) in 1942 set up a series of requirements for a normal industrial skin cleanser. Slightly modified in recent years, (25) these standards are as follows: (a) It should be freely soluble in hard, soft, cold, or hot water, (b) It should be agreeable to use, (c) It should remove foreign soil from the skin without defatting the skin, (d) It should not harm the skin if used with moderation, (e) It should not contain harsh abrasives, (f) It should not be highly alkaline (above pH 10.5), (g) It should be easy to use in cake form or flow easily through dispensers, (h) It should not deteriorate or become insect infested, and (i) It should not clog plumbing.

Providing further details, Schwartz stated that soaps for industrial cleaners should be sodium or potassium salts of stearic, palmitic or oleic acids. Colloidal clay may be added because it is harmless and aids emulsification. In hard water localities, water softeners or synthetic detergents should be added to the soap. Where it is necessary to remove tenacious oils or greases from the skin, the addition of ground corn meal or other scrubbing agent will aid the detergent action.

On the basis of such considerations, type formulas for industrial hand cleaners for general use were developed, as follows:

	parts
Neutral toilet soap	30
Colloidal clay (bentonite or kieselguhr)	30
Synthetic detergent	10
Lanolin	5
Perfume	1

Mix the colloidal clay and the wetting agent. Heat the soap and lanolin and mix with the previous combination and press into cake form.

To make a powdered product, 25 parts of corn meal are added to the above formula and the mixture is worked to a powder. If a liquid preparation is wanted, Schwartz advises that a mixture of equal parts of potash coconut oil soap and sulfonated castor oil to which one per cent of a synthetic detergent is added makes a good liquid cleanser.

From the foregoing, it is obvious that a number of considerations enter into the formulation of acceptable industrial skin cleaners. Much attention has been focused on the use of scrubbers, sulfonated oils, synthetic detergents, alkalis, emollients, antiseptics and other agents. Thus, during the last few years, soft scrubbers have found an important place in the preparation of cleaners, especially the powdered types. This is reflected in the recent finding (13) that abrasive pastes and abrasive cake soaps are now losing popularity.

Scrubbers of vegetable origin, like corn meal, corn cob meal, wood flour and the like are finding growing utilization. When properly classified as to particle size they are preferred to abrasives, such as sand or pumice, because they are much less likely to

abrade, scratch or cut the skin while serving mechanically to facilitate the removal of ground-in grime and dirt.

Over a decade ago, in suggesting a substitute for mechanics' abrasive soap, Klauder and his colleagues (23) advocated the addition of 1.5 parts by weight of white granulated corn meal to one part by weight of the following detergent mixture:

	per cent
Sulfonated neat's foot oil	45
Light liquid petroleum	45
Gelatin, 25% aqueous solution	10

To prevent bacterial or mold growth, a 0.5 per cent solution of chlorobutanol is added. To be used with water in the same way as soap, the resulting mixture had the appearance of wet sand. To cleanse particularly dirty or greasy hands, the action is enhanced by adding one or two per cent of sodium hexametaphosphate or two per cent of sodium metasilicate.

Subsequently, the inclusion of corn meal was recommended by Schwartz, and a number of powdered cleaners containing this scrubber appeared on the market. Noteworthy in this connection was the warning (30) that certain products containing 50 to 60 per cent of corn meal and 40 per cent of soap may become infested with insects, particularly flour bettles. This can be prevented, however, by the addition of four per cent of pine oil.

In tests carried out with machine oil, cutting oil and soluble oil, Cruickshank (26) found that better results were obtained from the use of a mixture of equal parts of wood flour and milled, dried soap powder. The wood flour, in addition to preventing caking of the powdered soap, acts as a mild scrubber and provides an alternative surface to which the oil may become attached. It may be mentioned here that one well known industrial hand cleaner uses a combination of corn meal and specially prepared wood flour. Patented detergent compositions for removing grease and grime from the hands also make use of finely divided, nonabrasive, absorbent wood sawdust. (31)

Other materials have been proposed for use as scrubbers. For example, investigators of the U. S. Department of Agriculture have called attention to the potentialities of suitably ground and processed corn cobs and nut shells as economical additions to hand soaps. (32) In a patent describing improved skin-cleaning compositions, Fiedler (33) suggests the use of dried, residual meal obtained on extracting oil, protein and carbohydrate from soybeans.

Demonstrating new hand cleaner manufactured by West Disinfecting Co., Long Island City, N. Y. The addition of the soap intensifying emollient, lecithin, helps detergency while stabilizing new sudsing effect.

Sulfonated Oils Used

As previously noted, sulfonated oils have been used in the preparation of industrial skin cleaners. Dermatologists (24) have found that these treated oils are important cleaners in industry for workers who have developed dermatitis or who may not tolerate soaps. Schwartz (15) feels that superfatted sulfonated oils, or mixtures of sulfonated oils, detergents and unsulfonated oils should be provided for workers having dry or inflamed skins, who are soap-sensitive, or who are exposed to the defatting action of solvents, degreasers and cutting oils. A formula for a liquid cleaner of this class is given as follows:

	per cent
Neutral sulfonated castor oil (pH 6-7)	93
Unsulfonated castor oil	5
Synthetic detergent	2

A solid cleaner of this class is made from:

	per cent
Synthetic anionic detergent	30
Sulfonated tallow	30
Colloidal clay	34
Lanolin	5
Perfume	1

Reminiscent of the product developed by Klauder and his asociates, (23) is the following skin cleaner recommended by Morris and Tabershaw (34) as a means of preventing "cable rash", a condition due to chlorinated naphthalenes and diphenyls:

White corn meal	50.0 Gm.
Butyl stearate	22.5 cc.
Sulfonated castor oil (75% oil)	22.5 cc.
Oleic acid	5.0 cc.

Some workers object to the fact that preparations of this kind do not lather well. In such cases, if the use of soap is not contraindicated, up to 50 per cent of soap may be added to impart this desirable characteristic. (15) Illustrative is the following liquid soap mixture.

	per cent
Neutral sulfonated castor oil.	50
Liquid soap	44
Lanolin	5
Perfume	1

Those who think that preparations based on sulfonated oils are old-fashioned may be surprised to know that several leading producers of industrial hand cleaners today provide products based on these materials. According to a recent report, (35) one

(*Turn to Page 98*)

T.G.A. Meets, Re-elects Keho

Dorothy Gray head again chosen as president of Toilet Goods Assn. at 16th annual meeting. Edward J. Breck of John H. Breck, Inc.; C. T. Lipscomb of Pepsodent; Wrisley Oleson of Wrisley, directors. P. C. Smith is treasurer.

RE-ELECTION of officers, panel discussions on merchandising and raw material supplies, scentific reports, packaging awards, golf tournament award, and meeting of the Fragrance Foundation were featured at the 16th annual convention of the Toilet Goods Association held May 15-17 at the Waldorf-Astoria Hotel, New York, drawing a record attendance of more than 1,000 members and guests.

In his address to the membership, Joseph Keho, who was re-elected president, pointed out that the full effect of government controls was yet to be felt; furthermore, that many of the materials required in the cosmetic industry are already controlled, and that provisions were in the making for tightening up progressively. He pointed out that statistics encouraged an optimistic outlook, with a "period of opportunity for greater growth in the years just ahead . . . opportunity with obstacles." Mr. Keho is president of Dorothy Gray, Ltd., New York.

Re-elected as vice-presidents of the association were: Jean Despres, Coty, Inc., New York; John A. Ewald, Avon Products, Inc., New York; Davis Factor, Max Factor & Co., Hollywood, Calif.; H. J. Lehman, Wildroot Co., Inc., New York. Phillip Smith, Yardley of London, Inc., New York, was re-elected treasurer and William F. Denney, Jr., of Frances Denney, New York, was re-elected secretary.

Directors elected for a three-year term are as follows: Edward J. Breck, John H. Breck, Inc., Springfield, Mass.; Pierre Harang, of Houbigant Sales Corp., New York; Oscar Kolin, of Helena Rubenstein, Inc., New York; C. T. Lipscomb, Jr., of Pepsodent Div. of Lever Bros. Co., New York; John H. McShane, of Pacquin, Inc., New York, and Wrisley B. Oleson, of Allen B. Wrisley Co., Chicago. Associate directors re-elected for another year are Frederick J. Lueders, of George Lueders & Co., New York, and Roy L. Murphey, of T. J. Holmes Co., Inc., Chartley, Mass.

The golf tournament held May 14th at the Winged Foot Golf Club, Mamaroneck, N. Y., was won by Harold Green, of L. Sonneborn Sons, Inc., New York, who was presented with the Cecil Smith Memorial Trophy at the group luncheon on May 16th. The late Mr. Smith was head of Yardley of London, Inc., New York.

Gourielli, Inc., and Tussy Cosmetiques were winners of the annual Charles S. Welch Memorial Packaging awards for their packages "Five O'Clock Hidden Treasure" and "Midnight Lipstick and Perfume Vial", respectively. Bronze plaques were presented to representatives of the winning companies.

An interesting feature of the meeting was the panel discussion on "Prospects for Adequate Supplies of Materials and How They Will Affect the Cosmetic Industry". Materials covered in the discussion were: essential oils, fats and oils, pigments, dyes, plastics, brass, aluminum and steel, corrugated, folding boxes and paper, metal and plastic closures and glass.

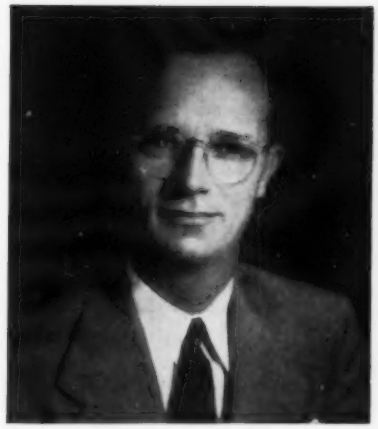
Louis Hirsch, Welch, Holme & Clark Co., New York, reported that the stearic acid supply is good at present, currently selling below ceiling. However, he pointed out that stearic acid follows the tallow market, and that a shortage in tallow would also result in a stearic acid shortage. The ample supply of tallow is expected to continue for some time.

Regarding the castor oil situation, it was observed that some fractions of castor oil are important for use in jet planes as well as an athletes foot remedy, contributing to stockpiling plans. Restrictions placed on castor oil last fall have resulted in a reduction to 30 per cent of normal use of castor oil in the cosmetic industry, presenting serious problems to the manufacturers. An optimistic note was struck in the observation that the government may be more lenient in hardship cases, and that it is possible that orders for castor oil may be eased in the near future so that more adequate supplies may be available.

Mr. Hirsch indicated that supplies of lanolin would be tight for an indefinite period, because the wool industry is not supplying adequate wool grease. The government is stockpiling the material, since it has wide application as a rust preventive. Supply depends on the wool industry, with little hope of an easing of the situation in the immediate future.

The essential oil situation was reviewed by John Montgomery, of Fritzsche Bros., Inc., New York, who reported that geranium oil will be scarce for another year, and prices

JOSEPH KEHO



PHILIP C. SMITH

S. L. MAYHAM

will remain high. Prices of bergamot oil, which is imported from Italy, are also expected to continue high, although there is enough bergamot oil in the U. S. for the balance of the year. In connection with lemon grass oil, Mr. Montgomery pointed out that its use in the cosmetic industry is overshadowed by other applications, such as the production of vitamin "A."

The outlook on plastics, corrugated, folding boxes and paper, and metal and plastic closures was presented by Stanley Sapery, Stanley Sapery Co., New York; Arthur J. Brewster, Containers Div., Robert Gair, Inc., New York; Leonard Dalsemer, Lord Baltimore Press, Baltimore, and George S. Babcock, Owens-Illinois Glass Co., Toledo, O., respectively.

The supply of acetate and cellulose is expected to be tight for some time; styrene is not tight at present, and will be ample this fall. The availability of vinyl is expected to improve, as is that of urea and phenolics. In connection with the paper, members pointed out that while paper board appears adequate for this year, high prices make it difficult to hold costs down. Currently there is a slackening in the intensity of demand for corrugated. However, there may be a tightening of supplies if the government goes all out in buying corrugated for military boxes. On closures, it was reported that manufacturers would continue getting one-half pound electrolytic plate; furthermore, that there is no world shortage of tin, the situation being primarily diplomatic and political.

Paul Hiller, of Innis, Speiden Co., New York; J. H. Majesky, Hazel-Atlas Glass Co., Wheeling, W. Va.; L. R. Root, Scoville Mfg. Co., Waterbury, Conn.; Eric Blackstead, Ansbacher Siegle Co., Staten Island, N. Y., and S. L. Mayham, TGA executive vice-president, completed the supply panel, discussing heavy chemicals, glass, brass and steel, pigments, and miscellaneous items, respectively.

In summarizing the situation, S. L. Mayham pointed out that materials such as copper, aluminum, steel, alcohol and castor oil present serious problems, however, the use of substitute and alternative materials gives promise of solutions.

Scientific Section Meets

THE Scientific Section of the T. G. A. met May 17 to hear seven reports by members, and to elect E. J. Masters, Helena Rubenstein, Inc., Long Island City, N. Y., chairman of the section, and D. H. Powers, Warner-Hudnut Co., New York, vice-chairman.

The report on "The Effect of Tap Water, Hard Water and Sea Water on the Performance of Shampoos" by G. Barnett and D. H. Powers, Warner-Hudnut Co., Inc., New York, concerned the evaluation of shampoos by a method simulating actual shampooing conditions. The products were tested in tap water, hard water and sea water with the following results: of 16 commercial shampoos, four gave good cleansing with tap water, three in hard water, and only one was effective in sea water; of sixteen soaps and detergents tested under the same conditions, fourteen gave excellent cleansing in tap water, 13 in hard water and eight in sea water. According to the authors, these findings seem to indicate that detergents and soaps are available which will give excellent scouring action in tap water, hard water and sea water, but only one-quarter of the leading commercial shampoos on the market are effective in hard water or tap water, and only one is effective in sea water.

In the report on the "Problems Encountered in the Perfuming of Aerosols" by Victor DiGiacomo, Givaudan-Delawanna, Inc., New York, it was pointed out that a knowledge both of the manufacture of the aerosol bomb and of the nature of the perfume ingredients must be applied to prevent corrosion, retain solubility over a long period of time, avoid irritation and bring forth the desired type of odor. The author cited the use of benzyl benzoate, which is not irritating in ordinary use, but is limited in its application in aerosols, because of possible irritating effects. It was concluded that the challenge of perfuming aerosols can be best met by the combined talents of the perfumer and chemist.

L. W. Hazleton, Hazleton Laboratories, Falls Church, Va., discussed "The Calculated Risk in Formula Changes", while G. R. Clark, Food & Drug Administration, Washington, D. C., presented a report on "The Analytical Chemist in the Cosmetic Industry." A report on "An Instrument for Measuring the Luster of the

Hair" was presented by W. E. Thompson and C. M. Mills, Colgate-Palmolive-Peet Co., Jersey City, N. J. Louis C. Barail, U. S. Testing Co., Hoboken, N. J., described various methods used for the detection of the presence of primary irritants and cutaneous sensitizers in pharmaceutical and beauty products in his paper, "Skin Tests vs. Dry Cosmetic Manufacturers". Use of special pads secured under the armpits for auxiliary perspiration determinations were discussed in the report "Anti-Perspirant . . . Auxiliary Method of Determining Effectiveness", by W. G. Fredell and R. R. Read of the Lambert Pharmacal Co., St. Louis, Mo.

A panel discussion of the "New Trends in Distribution and How They Will Affect the Cosmetic Industry" took into account the traditional methods of distribution as compared with recent developments such as door-to-door selling of cosmetics, as well as self-service available in many stores. E. B. Weiss, Grey Advertising Agency, New York, pointed out that the cosmetic industry, being a mass industry, would have to adopt mass merchandising methods. According to Earle Lifshey, managing editor of *Retailing Daily*, additional sales resulted from door-to-door selling, since this was "created business." The position of the druggist in sales promotion was emphasized by John McPherrin, editor of *American Druggist*, while Frazer V. Sinclair, publisher of *Beauty Fashion*, made a strong case for the traditional methods insofar as they apply to the treatment lines and higher priced perfumes. Mrs. Charlotte Montgomery, author of "The Woman's Viewpoint" in *Tide* magazine, was the final member of the panel on distribution.

Fragrance Foundation Meets

AT the second annual meeting of the Fragrance Foundation, Inc., Samuel Rubin, of Faberge, Inc., New York, was elected president to succeed Oscar Kolin, Helena Rubenstein, Inc., New York. H. Gregory Thomas, of Chanel, Inc., New York, was re-elected vice president; Frazer V. Sinclair, of the Pope Publishing Co., New York, was elected treasurer, and A. L. van Ameringen, van Ameringen-Haebler, Inc., New York, was re-elected secretary.

In his address to the foundation, Oscar Kolin, president, pointed out that the first objective of the Fragrance Foundation was to concentrate its efforts on the education of the consuming public in the use of fragrance products in every possible way. During the course of the meeting, it was announced that the board of directors had voted to admit retailers into the membership of the organization. Elected for a three-year term to the board of directors were: Oscar Kolin, Helena Rubenstein, Inc., New York; Pierre Harang, Houbigant Sales Corp., New York, and Philip C. Smith, Yardley of London, Inc., New York.

Cosmetic Chemists Discuss Aerosols

REPORTS dealing with the testing and evaluation of cosmetic products and packages were presented at the semi-annual technical meeting of the Society of Cosmetic Chemists held May 18th at the Biltmore Hotel, New York. In his report on the "Stability Testing of Low Pressure Aerosols", Eugene L. Rose, G. Barr & Co., Chicago, pointed out the following factors to be considered in the manufacture and packaging of aerosol dispersed cosmetics:

1. The physical compatibility of the active ingredients with the propellents.
2. The chemical compatibility of the active ingredients with the propellents, the container, and the valve mechanism.
3. The physical characteristics of the active ingredient solution at below freezing temperatures.
4. Adequate material and production controls.

Mr. Rose pointed out that a higher content of propellent resulted in a fine and dry spray, while less propellent yields a wetter foam. The active concentrate is composed usually of highly volatile materials, so that it requires packaging at cool temperatures. The low temperatures at the nozzle of the aerosol units introduce a moisture condensation problem, with hydrolyzation and the formation of corrosive acids. It is therefore advisable to eliminate moisture, where possible.

Propellents used in aerosols must meet ICC specifications. One of the requirements is that cans be 90 per cent full at 70° F. and not liquid full at 130° F. If the can is filled with liquid, the normal vapor does not exist, and the hydrostatic pressure of the liquid is encountered, introducing a considerable problem.

Still another problem in preparing aerosol dispersed cosmetics is that of perfuming the product. Although the perfume may be found to stand up well with the propellent in a glass container, it may undergo a change in odor, color, and even cause corrosion when filled in the can. Studies are currently underway for the manufacture of glass containers for aerosols.

Other reports presented at the meeting were: "Evaluation and Testing of Nail Lacquers" by Henry J. Wing, Northam Warren Corp., New York; "Spectrophotometry in the Analysis of Cosmetic Products" by G. Robert Clark, Food & Drug Administration, Washington, D. C.; "Consumer Tests and Consumer Acceptance" by Erwin DiCyan, DiCyan and Brown, New York; "Study of the Mechanism and the Evaluation of Antiseptic Action" by Herbert L. Davis, Ethicon Suture Laboratories, New Brunswick, N. J.; "Skin Testing of New Cosmetic Products" by Louis Schwartz, Washington, D. C.; "Evaluation of Stability on Cosmetic Items" by C. R. Kircher, Kolmar Laboratories, New York; and "Evaluation of Deodorants by *in vitro* and *in vivo* Methods with Particular Reference to Chlorophyll and Derivatives" by John A. Killian, Killian Research Laboratories, New York.

Recent developments in

ESSENTIAL OILS

By Ernest Guenther, Ph. D.
Fritzsche Brothers, Inc.

(Part IV. Conclusion.)

SPIKE lavender oil is distilled from the flowering tops of *Lavandula latifolia* Vill. (fam. *Labiatae*), a plant resembling lavender and lavandin (see previous installment). It grows wild and abundantly on arid hill slopes and plains of central and southeastern Spain,[1] which country is the principal supplier of the oil. The field stills employed for the production of spike lavender oil closely resemble those employed for rosemary (see previous article), but distillation takes place only in August and September, when the plant blooms—not all year round, as in the case of rosemary. Oil of spike lavender possesses an odor resembling lavender and lavandin, but sharper and more camphoraceous; hence its great usefulness in the scenting of soaps and technical preparations. In the years before the outbreak of the Civil War in 1936, Spain produced annually from 80 to 125 metric tons of spike lavender oil; during this war the output fell to as low as 12 tons (in 1938). More recently it has risen again, amounting to 175 tons in 1946, 95 tons in 1947, and 145 metric tons in 1950. Production has thus varied considerably from year to year. The crop of 1950 was abundant, despite the drought, for the simple reason that the producers paid very high wages for the collection of the plant material. Otherwise the 1950 output would not have exceeded 90 metric tons as the plants were in very poor condition.

No spike lavender oil is produced in the Western Hemisphere, for the simple reason that there are no areas where the plant grows wild and abundantly. To produce the oil in America on a commercial scale, large plantations would have to be started —a costly task, especially in view of the fact that for about the same investment the much more valuable lavender or lavandin could be planted.

STYRAX AMERICAN: Styrax or gum styrax is the exudate from the trunk of *Liquidambar styraciflua* L. (fam. *Hamamelidaceae*), a tall tree growing wild in the vast forests of Honduras and adjacent sections of Central America. Almost 99 per cent of the Honduran styrax originates from the Province of Olancho, an almost inaccessible, mountainous region covered with tropical forests. Collection of the gum is entirely in the hands of Indian tribesmen (Payas), who in the dry season penetrate the woods, and return with skins, hides and styrax. For the gathering of the latter, the tree trunks are now tapped, very much like rubber (*hevea*) trees, the older method of felling the live trees having been prohibited by law, as too wasteful. During the rainy season (from July to October) the forests become absolutely inaccessible and collection of the gum ceases. Even during good weather the gathering of styrax represents a difficult and often dangerous task, which can be performed only by hardy natives familiar with the woods and habituated to a very low standard of living. Their needs are primitive and few, so that even a substantial rise in the price of the styrax would not induce them to gather larger quantities; on the contrary, they would only work correspondingly less and spend their spare time in leisure. It is primarily for this reason that production of styrax cannot be increased much above the present average of 500,000 pounds per year.

THYME OIL: Is distilled from the flowering tops of several species and varieties of *Thymus*, chiefly *T. vulgaris* L. and *T. zygis* L., sub-shrubs growing wild and abundantly on barren hillslopes and plains in Mediterranean countries. For years, principal producer of the oil has been southeastern Spain (Provinces of Murcia and Almeria), where the oil is distilled in simple field stills, closely resembling those employed for origanum (see previous article). Oil of thyme contains from 50 to 60 per cent of phenols (chiefly thymol). Since the end of World War II, production of thyme oil in Spain has fluctuated between 5 and 25 metric tons per year, amounting to 18 tons in 1950. Because of the drought, the plants did not develop sufficiently. With the numerous field stills available and with the great demand for the oil, suppliers had hoped to produce at least 40 tons of oil.

No thyme oil is produced in the Western Hemisphere. As in the case of many other aromatic plants, there are no areas in America where

[1] See Ernest Guenther, "The Essential Oils", Vol. III, p. 504, D. Van Nostrand Co., New York, 1949.

[2] *Ibid.*, Vol. III, p. 744 ff.

the thyme plant grows wild and in sufficient abundance to make commercial distillation worthwhile. To produce the oil, the thyme would have to be cultivated on large plantings.

VETIVER OIL: Is distilled from the dried underground parts (aromatic rootlets) of *Vetiveria zizaniodes* Stapf, a grass of the family *Gramineae*, which grows cultivated, semiwild and wild in many tropical countries—India, Java, Réunion Island, Haiti, Guatemala and Brazil, among them.[1] In India the plant, known since time immemorial, has been cultivated for several purposes: the whole plant prevents soil erosion on slopes of hills, and protects partitions in terraced rice fields against collapse; the leaves serve for the thatching of huts; and the fine rootlets can be woven into fragrant mats or used as sachets for the scenting of fabrics. In many countries the plant has escaped cultivation, and can now be found growing wild or semiwild in large numbers.

a) *Oil from Java*: Prior to World War II the heaviest producer of vetiver oil was Java, which then furnished from 30 to 35 metric tons of oil per year. The invasion of Java by Japanese forces almost ruined the vetiver industry of this once prosperous island. The largest distillery specializing in the processing of vetiver root was burnt down, and at present Java exports only a few tons of oil per year. Occasionally small parcels of Java vetiver oil are offered on the New York market, but this type of oil can no longer be considered a regular article of commerce.

b) *Oil from Réunion Island*: The second largest supplier of vetiver oil in prewar years was the island of Réunion in the Indian Ocean, east of Madagascar. Production here varied from 5 to 12 metric tons per year; in 1945 it rose to 15 tons. This increase resulted most likely from the dearth of Java vetiver oil on the market and consequent high prices. Lately production seems to have fallen off again for several reasons, probably the same reasons that have also curtailed the supply of Réunion geranium oil (see previous installment.) At present it is quite difficult to purchase substantial lots of Réunion vetiver oil, and quality must be watched most carefully.

A vetiver distillery in Sao Paulo State, Brazil. At right, unloading dried vetiver root in same place.

c) *Oil from Haiti*: The vetiver plant was introduced into Haiti probably more than 150 years ago, when this West Indian island was one of France's most prosperous possessions, growing valuable crops on the then rich soil—now eroded by neglect and years of poor management. In early colonial days the vetiver plant was probably used against soil erosion (in some places this is still being done). Since then this grass has escaped cultivation and can now be seen in large stands. Some of these plants have been in the ground for many years, and the roots have grown very old. (This fact has a considerable influence upon the quality of the oil—see below).

Production of vetiver oil in Haiti was started about 1941, and has now reached about 10 metric tons per year. The oil is at present offered freely on the North American market, and is finding ever wider recognition in the trade, gradually replacing the Java and Réunion oils. This development, again, offers a good example of what can be accomplished in the Western Hemisphere, as regards the development of a new essential oil industry.

d) *Oils from Central and South America*: The vetiver plant grows not only in Haiti, but also on some of the other West Indian islands, Dominica for example, furthermore in Central America (Honduras, Guatemala, etc.), and in South America (Brazil, in particular). More or less successful experiments in producing the oil on a commercial scale have been made in several countries of Latin America. The most important development is that in the State of Sao Paulo (Brazil), where several tons of vetiver oil are now produced. Most of this oil, however, is absorbed by the domestic market which appears to offer better prices to the producers than the U. S. market.

In this connection it may be interesting to mention briefly an example of what may happen if a grower starts on an essential oil program without the necessary "know-how." Some years ago a large agricultural enterprise in the interior of Sao Paulo State laid out several hundred acres of vetiver plantations in laterite soil, without realizing that vetiver should be grown only in loose ground. When the roots were extracted from the compact laterite, the fine, hairy parts of the roots (which contain most of the oil) broke off and stayed in the ground. This, obviously, resulted in such a low yield of oil per acre that the cost of the oil became prohibitive.

Before closing this section a few words should be added about the quality of vetiver oil. This depends chiefly upon two factors, viz., the method (particularly the length) of distillation, and the time the roots are permitted to stay in the ground—in other words, the age of the plant. The most valuable constituents of vetiver oil are contained in the high boiling fractions; to capture these the roots have to be distilled for many hours. As regards the age of the roots: they

[1] "The Essential Oils", Vol. IV, p. 156 ff, D. Van Nostrand Co., New York, 1950.

should be left to mature in the ground for about two years (after planting). Younger roots may give a better yield of oil, but the oil will be of low specific gravity and lacking in the valuable high boiling constituents. If the roots stay in the ground longer than two years, the yield of oil diminishes considerably, the oil turns very viscous, assuming also a dark color. It is chiefly because of the age of the root material that vetiver oils from Java, Réunion Island and Haiti exhibit such marked differences. The Java oil is distilled mostly from roots one year old, the Réunion oil from roots usually two years old, while the Haiti oil is often derived from roots of wild and semiwild plants that have been in the ground for many years. Haitian vetiver oil, therefore, is of somewhat dark color, quite viscous, and of "heavy," very lasting odor. Because of its good quality, the Haitian oil is finding increasing recognition in the trade.

YLANG YLANG OIL: Is distilled from the flowers of *Cananga odorata* Hook. f. et Thomson, var. *genuina* (fam. *Anonaceae*), a tree native probably to the Moluccas or Philippine Islands, but now cultivated extensively in Nossi-Bé (a small island off the northwestern coast of Madagascar), in the adjacent sections of Madagascar proper, in the Comoro Islands, and on Réunion Island. The true ylang ylang tree must not be confused with the closely related cananga tree, which grows semiwild in Java, and yields an essential oil quite inferior to ylang ylang oil (see section on Cananga Oil).

Ylang ylang oil was first produced in the Philippine Islands, about 1865, and for a long time Manila's prosperous ylang ylang industry dominated the market, supplying the world with oils of excellent quality. World War I, however, sharply curtailed production of the Manila oil, and World War II practically ruined it, the once beautiful ylang ylang groves in and near Manila making room for housing projects.

Between 1900 and 1910 large plantings of ylang ylang were started on and around Madagascar, particularly on Nossi-Bé, in the Comoro Islands and on Réunion. Gradually Madagascar's ylang ylang industry replaced that of Manila, supplying the world annually with about 50 metric tons of oil. About one-half of this quantity formerly came from the small island of Nossi-Bé, which furnished some of the finest brands of oil. Next to Nossi-Bé the Comoro Islands and Madagascar proper have been the most important producers of ylang ylang oil; on Réunion Island production has fallen off to about 1,500 kg. annually, chiefly as a result of economic conditions.

Until only two or three years ago (with the exception of the war years) supplies of ylang ylang oil from Nossi-Bé, Madagascar, and the Comoro Islands continued regularly, and the quality of most shipments was above reproach. Then, suddenly, the picture changed, and at present it is extremely difficult, if not outright impossible, to procure substantial lots of really good quality. Only very small parcels are now being offered from the islands, and the former gradation into "extra," "first," "second" and "third" qualities—fractions, in reality—appears to have lost all its significance. A quality now offered as "extra" by one producer in Nossi-Bé, should perhaps better be classified as a poor "first," if not "second." Under the circumstances every lot of oil must now be evaluated on its own merits.

This sudden decline in Madagascar's ylang ylang industry must be attributed to two factors: first, during the last war producers in Madagascar were unable to sell their oil, hence neglected their plantations and did not plant new trees. Many of the old trees have now reached an age when their productivity declines rapidly. Moreover, during the war the trees were not pruned properly and regularly; therefore they grew to considerable height, at the expense of flower development. This is true particularly of the bigger plantations (belonging to the well-known large scale producers of oil), which require much field labor. As a result, the flower harvest on Nossi-Bé in 1948 was only about one-half of the prewar figures, and no increase is in sight for the immediate future.

It takes about five years for a newly planted tree to reach the maximum of flower growth. Under these conditions the island of Nossi-Bé and adjacent parts of Madagascar proper can at present supply only about 11 tons of ylang ylang oil per year. Even this quantity, however, is produced chiefly by small operators, some of them Indians, Chinese and natives, who do not fractionate their oils into "extra," "first," "second" and "third" qualities (as the large distilleries do), but only into a "first" and a "second." "Extra" and "third" qualities have thus become very scarce.

The second factor in the general decline of Madagascar's ylang ylang industry must be attributed to the terrific cyclone which hit the Comoro Islands Jan. 4th, 1951, severely damaging all plantations. Not a single ounce of ylang ylang oil will be produced this year in the Comoro Islands (which otherwise would have supplied 4 metric tons); official reports predict that it will take about three years before the ylang ylang industry of the Comoros can recover.

As regards the possibilities of producing ylang ylang oil in the Western Hemisphere, the immediate outlook is not too bright. There exists an experimental ylang ylang plantation in Mayaguez, Puerto Rico, but the quantities of oil that might be distilled from these flowers would be very small indeed. Another small planting is located near La Lima, Honduras, and other trees can be found scattered in Guatemala. Most promising, perhaps, for production of ylang ylang oil in tropical America is a plantation of about 1,500 trees, which the writer recently found on the island of Trinidad (B.W.I.). Arrangements for experimental production of ylang ylang from the flowers of these trees have been made with the owner of the grove.

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This concludes the four part article by Dr. Guenther, installments of which appeared in the three previous issues. Reprints will be made of the article in its entirety and will be available from the author shortly.

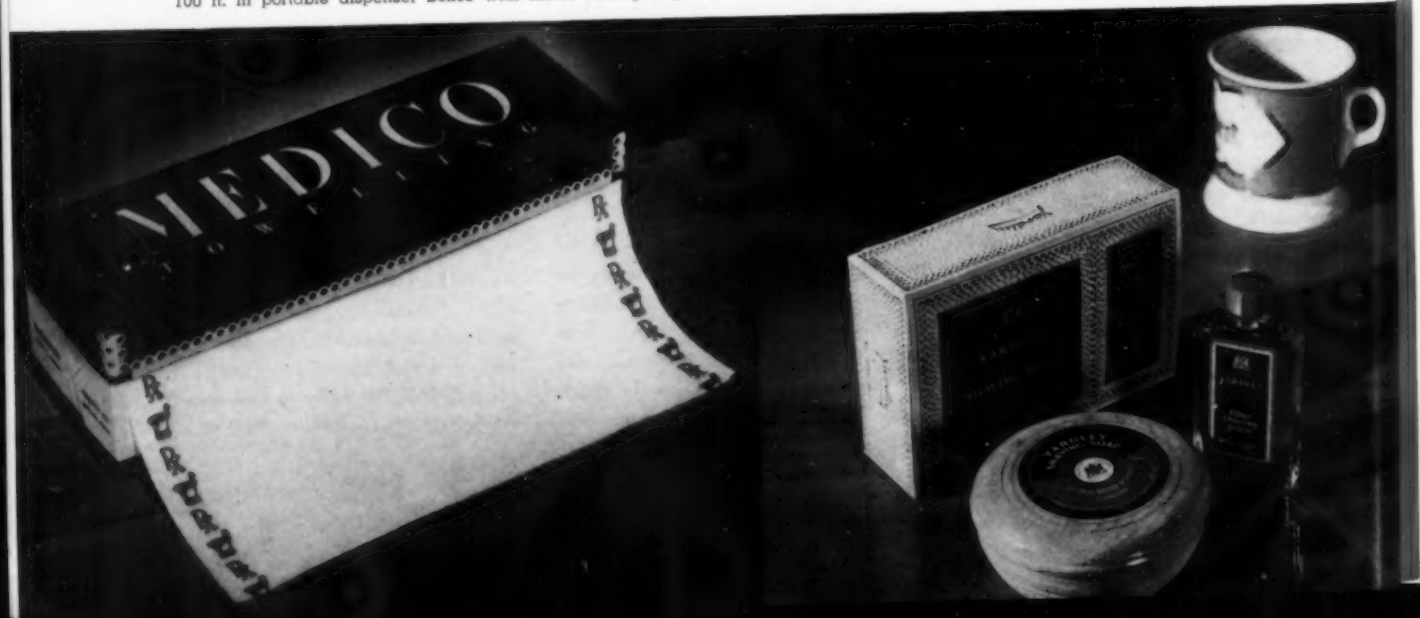
In time for Father's Day, Daggett & Ramsdell, Inc., Newark, N. J., recently introduced a red gift package containing their D&R shaving cream and after-shave lotion. Retail price for set is $1.

New "Paradize Plastic Wax" for floors was announced recently by Paradize Products Corp., Fairview, N. J. Comes in pint, quart and gallon sizes to retail for 59 cents, 98 cents and $2.98, respectively. Self polishing the material can be used for all floors.

WHAT'S NEW?

Woodlets, Inc., Portland, Pa., introduced "Medico" towelling recently. The white disposable towelling is packaged in rolls of 100 ft. in portable dispenser boxes with metal cutting edge.

A Yardley special for Father's Day is the new gift set below, consisting of redesigned shaving bowl and after shaving lotion. Both products scented with English Lavender. Set retails for $1.25.



"Aeromist Glass Cleaner" is now available in unbreakable plastic squeeze bottles, it was announced recently by Boyle-Midway, Inc., New York. An introductory offer of one regular refill size "Aeromist" and new plastic squeeze bottle now available for 49c.

A "handi squeeze" pouring spout was added recently to the "Oakite" package, made by Oakite Products, Inc., New York. The device is operated by simply pressing on the sides of the package, which causes the automatic spout to appear. No cutting is necessary, nor is there a metal spout.

New "First" combination floor cleaner and bactericide, distribution of which began nationally recently, is a product of Piatt & Smillie Chemicals, Inc., St. Louis. The new product, which contains "Santophen 1", made by Monsanto Chemical Co., St. Louis, cleans, deodorizes and sanitizes at once.

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One manufacturer was buying three different grades of caustic from as many suppliers. He thought he needed them for his different soaps and different processes. Then he came to us and we found that one grade of Wyandotte Caustic filled all three of his specifications.

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Non-ionics

in the DRY CLEANING INDUSTRY

By George E. Barker and Humbert J. Ranauto*
Atlas Powder Co.

THE dry cleaning industry has employed surface active agents effectively in the form of soaps for many years. These soaps, which were usually potassium, ammonium, or amine salts of fatty acids, were generally solubilized in non-aqueous solvents by the addition of an excess of fatty acids or partially saponified fats. With the advent of synthetic surface active agents, and especially with their meteoric rise during the past decade, new dry cleaning "soaps", which may better be called dry cleaning detergents, have appeared on the market. These new "soaps", based on synthetic detergents and emulsifiers, have exhibited the advantages of easy filterability without the development of excessive pressures, absence of residual odors, good emulsifiability when used with water of any natural hardness, and good detergency combined with excellent whiteness retention. The non-ionic detergents and emulsifiers are among the most recent additions to this field. They have brought with them their known advantages plus some unique properties.

The dry cleaner is confronted with a group of related operations in the cleaning of garments, which include: the washing of fabrics in non-aqueous solvents with or without the addition of small amounts of moisture, the removal of spots with a variety of solvents and chemicals, and sometimes the complete wet-cleaning of the article.

To operate at the highest economic efficiency, the dry cleaner aims to have the bulk of his cleaning accomplished in the wash wheel. In order to do this, which means reducing the spotting to a minimum, he usually wishes to add water to the solvent. Consequently, besides good cleaning and whiteness retention in a detergent, the dry cleaner must have the appropriate emulsifying properties.

Whiteness Retention

THE ability of a dry cleaning detergent to increase the detergency of dry cleaning solvents is best determined by actual cleaning in a plant. Whiteness retention may be studied both in the laboratory and in the plant. The laboratory study consists of adding carbon black to a solution of the detergent in the solvent, immersing a piece of fabric, agitating, removing the fabric, allowing the solvent to evaporate, and measuring the light reflectance of the fabric. The light reflectance of the fabric is measured with a Hunter Reflectometer, an instrument which determines the amount of light reflected from the surface, and so measures the "whiteness" of the

* Before 37th Midyear Meeting C. S. M. A., Chicago, May 1, 1951.

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fabric. The whiteness retention is calculated as follows:

$$\text{Whiteness Retention} = \frac{\text{Reflectance of fabric after washing}}{\text{Reflectance of unwashed fabric}} \times 100$$

Practical evaluation of dry cleaning detergents is best carried out on a plant scale, although preliminary screening may be accomplished in the laboratory. By controlling the various factors, a simple test* can be devised to give exact quantitative data on whiteness retention. The Baker Terg-O-Tometer, used for detergency testing in aqueous systems, may also be used for dry cleaning detergency testing.

Whiteness retention properties, or the ability to prevent soil redeposition, of dry cleaning products may be evaluated in the laboratory as follows: 400 ml. portions of a 0.05% suspension of lampblack in mineral spirits and also containing 0.2% of dry cleaning detergent, are placed in each of the four beakers of the Terg-O-Tometer. Agitation is begun and continued for ten minutes to insure even dispersion of the lampblack and to allow the contents of each beaker to reach the temperature of the water bath (70°F.). Two 4″ x 4″ Botany wool swatches, the light reflectance of which had previously been measured using a Hunter Reflectometer, are added to each beaker and agitation at 76 cycles per minute continued for ten minutes. The swatches are then withdrawn from each bowl, allowed to drain of excess solvent, and then placed on paper towels to air dry. The light reflectance of the dried swatches is measured again and the percent whiteness retention calculated as previously described. A blank containing lampblack alone is run to emphasize the value of the addition of surface active agents to the dry cleaning solvent. The whiteness retention values obtained are shown in Table I.

Qualitatively similar results are obtained in actual dry cleaning plants operations.

It might be argued that tests such as these and other more extensive laboratory tests, which could be devised, do not represent actual plant practice and therefore are invalid. Now although it is true that they do not approach plant practice, they are of value to a laboratory in the preliminary screening of detergents necessary to an efficient product development program. The final worth, it is true, must be decided in actual plant usage.

Filter Pressure

THE powerful penetrating, emulsifying, and suspending properties of the properly compounded non-ionic dry cleaning detergents give very effective soil removal. These products are soluble in both petroleum and chlorinated solvents. Consequently, when employed by those dry cleaners who regenerate their solvent by filtration, they are filterable without the development of excessive pressures. Soaps which are not completely soluble in the solvent systems cause a build up of pressure in the filter system, and so under these conditions the solvent must be recovered by distillation.

Emulsifying Properties

IN the dry cleaning process it is often desired to incorporate water into the solvent to facilitate the removal of water soluble soil and especially of water soluble spots from the garments being cleaned. It is here that the non-ionic detergents exhibit their exceptional effectiveness, enabling the moisture to be very finely dispersed throughout the solvent. A fine, stable dispersion of the water in the solvent (a water in oil emulsion) is essential to the satisfactory use of moisture in dry cleaning. A coarse or unstable emulsion may break, depositing water in droplets containing soil. Such redeposited soil is removable only by wet cleaning, a rather tedious and costly process.

The ease with which this moisture is introduced, the character of the emulsion, and the effectiveness of the moisture are dependent on the emulsion forming properties of the dry cleaning detergent. By varying the hydrophile-lipophile balance of the detergent, it is possible to change the emulsifying properties of the detergent. The hydrophile-lipophile balance of a surface active agent is the ratio of the affinities of the molecule for water and oil respectively. It is the dual nature of these molecules which enables them to alter the surface properties of liquids. For all practical purposes the emulsifying properties of the emulsifiers and detergents may be changed by either varying the chemical structure of the molecule or by blending emulsifiers and detergents of different structures. Non-ionic surface active agents are readily varied in chemical structure, in fact they can be produced in the widest variety of chemical compounds, and each homologous series can be modified in its hydrophile-lipophile balance in small increments. It is also possible to produce an infinite number of non-ionic emulsifiers of different hydrophile-lipophile balance through the blending of different products. Because of this possibility of blending non-ionic emulsifiers of widely different hydrophile-lipophile balance to produce a certain desired emulsifier for a particular purpose, a predominantly hydrophile agent, such as a detergent for aqueous systems, can be blended with a predominantly hydrophobic agent, such as an emulsifier for producing a water-in-oil emulsion, to give the required product.

By virtue of their chemical structure the non-ionics are unaffected by the cations (minerals) present in hard water. This important character-

TABLE I

Whiteness Retention Produced by Dry Cleaning Detergents

Detergent	*Whiteness Retention (per cent)*
None	22.4
Non-ionic (mixture of sorbitan ester and polyoxethylene ester derivative	69.2
Anionic synthetic (alkyl sulfonates)	54.0
Soap (potassium oleate and oleic acid)	60.1

* Barker, G. E., and Kern, C. R., Journal Am. Oil Chem. Soc., *27* 113 (1950)

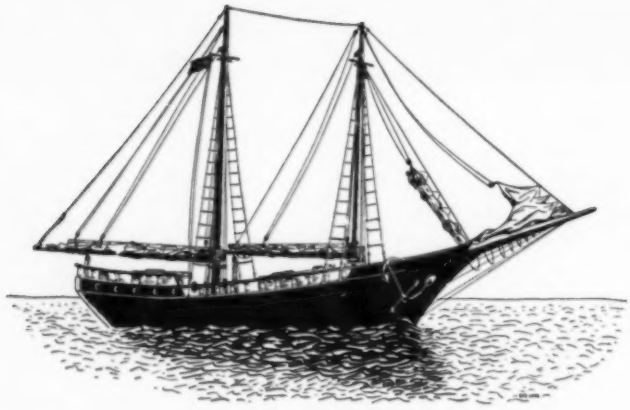

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TABLE II

Recommended Plant Usage of Stock Emulsion (1:12:6)

Fabric	*Value of Stock Emulsion/lb. of Garments*
Hard wools	½ to ¾ ounce
Soft wools	¾ to 1 ounce
Silks	¾ to 1 ounce
Rainwear	1 to 2 ounces

istic insures the proper emulsification in water of any natural hardness. The necessity of soft water, or the installation and maintenance of water softeners is eliminated.

Odor

ONE of the most important and yet troublesome occurrences in dry cleaning is the development of objectionable odors. One source of the odors is the garments themselves, and at times this is a real problem. A more common source of odor difficulty in dry cleaning is found in the fatty acids, generally derived from true soaps, which may accumulate in the solvent and be deposited on the garments. That such is the case was shown by Smith, Lowe, and Fulton,* in 1940, when they made an examination of over 400 samples of used Stoddard solvent. Although they found that the acid content of the solvent was not a completely reliable criterion of incipient rancidity, it was found to be closely related. Generally, when the free fatty acid content of the solvent reaches a certain level, the occurrence of objectionable odors in the garments is very common. The absence of free fatty acid in the non-ionic detergents, when they are used, lessens the development of odors.

A lower fatty acid content of the used solvent facilitates the elimination of the residual odors by filtration through an activated carbon. This also means that the interval between distillations of the solvent can be increased considerably. This increased economy of plant operation can be realized by the employment of non-ionic dry cleaning detergents, which contain no free fatty acids.

A good example of a non-ionic dry cleaning detergent is Atlas G-2684, a blend of non-ionic detergents and emulsifiers. It may be used in both petroleum naphtha and chlorinated hydrocarbon systems, with or without the addition of water. This product contains no solvent, water, or other diluents. It can be added directly to the solvent, or it may be used with moisture, in which case it is most convenient to make a stock emulsion. Actual dry cleaning experience has shown that a ratio of G-2684: Stoddard solvent: water of 1:12:6 by volume to be quite satisfactory. This stock mixture forms a reasonably stable emulsion, which is added to the wheel at the rates given in Table II. The fact that the emulsion is of the water-in-oil type enables it to be dispersed readily in the solvent contained in the wash wheel.

Under those circumstances where the dry-cleaner wishes to avoid the use of added moisture, it is convenient to prepare a stock solution of one part G-2684 and 12 parts of Stoddard solvent. This stock solution is usually added to the wheel at the rate of ¾ to one ounce per pound of garments, whether they are silks or wools.

For use in perchlorethylene with moisture, a good stock emulsion is prepared by mixing in the ratio of one part G-2684, 9 parts perchlorethylene, and five parts water. This forms a sufficiently stable emulsion, which is added to the wash wheel at the same rates as given in Table II. In those cases where the incorporation of additional moisture is not desired, a stock solution made of one part G-2684 and nine parts of perchlorethylene is recommended. This stock solution may be added to the wash wheel at the rate of ¾ to one ounce per pound of garments, regardless of the fabric.

The decision as to whether the dry cleaning "soap" manufacturer sells a product such as G-2684 as a concentrate or dilutes it with oils and solvents depends on the desires of his customers. Many dry cleaning "soap" manufacturers find it necessary to offer several types of dry cleaning "soaps", in which case the versatility of a non-ionic dry cleaning detergent concentrate makes it a suitable single starting point for all his products.

Use of Non-ionics with Soap

IF, for economic or other special reasons, it is desired to use a true soap in dry cleaning solvent, it can be accomplished without the introduction of free fatty acid by incorporating a non-ionic emulsifier, such as Span 80.* An example of a dry cleaning detergent based on soap and a non-ionic emulsifier follows:

10% Potassium oleate
13% Span 80
50% Stoddard solvent
23% Water
4% n-Butanol

The above "soap" can be added directly to Stoddard solvent in the wash wheel or it can be emulsified with additional water before going into the wheel. Many prefer to add this type of "soap" to the wash wheel diluted with one part Stoddard solvent or as an emulsion of one part "soap", one part Stoddard solvent, and one part water.

Wet Cleaning

NO discussion of the dry cleaning industry would be complete without some mention of the use of non-ionic detergents in plain water solution as an auxiliary method of cleaning. These non-ionic detergents are very effective at the relatively low temperatures customarily employed in so-called "wet cleaning". They are usually neutral in their reaction; do not cause bleeding of colors; do not promote felting; form no insoluble curd in any kind of water; may be used in acid or salt solutions where expedient; and above all, have excellent detergency on all fabrics.

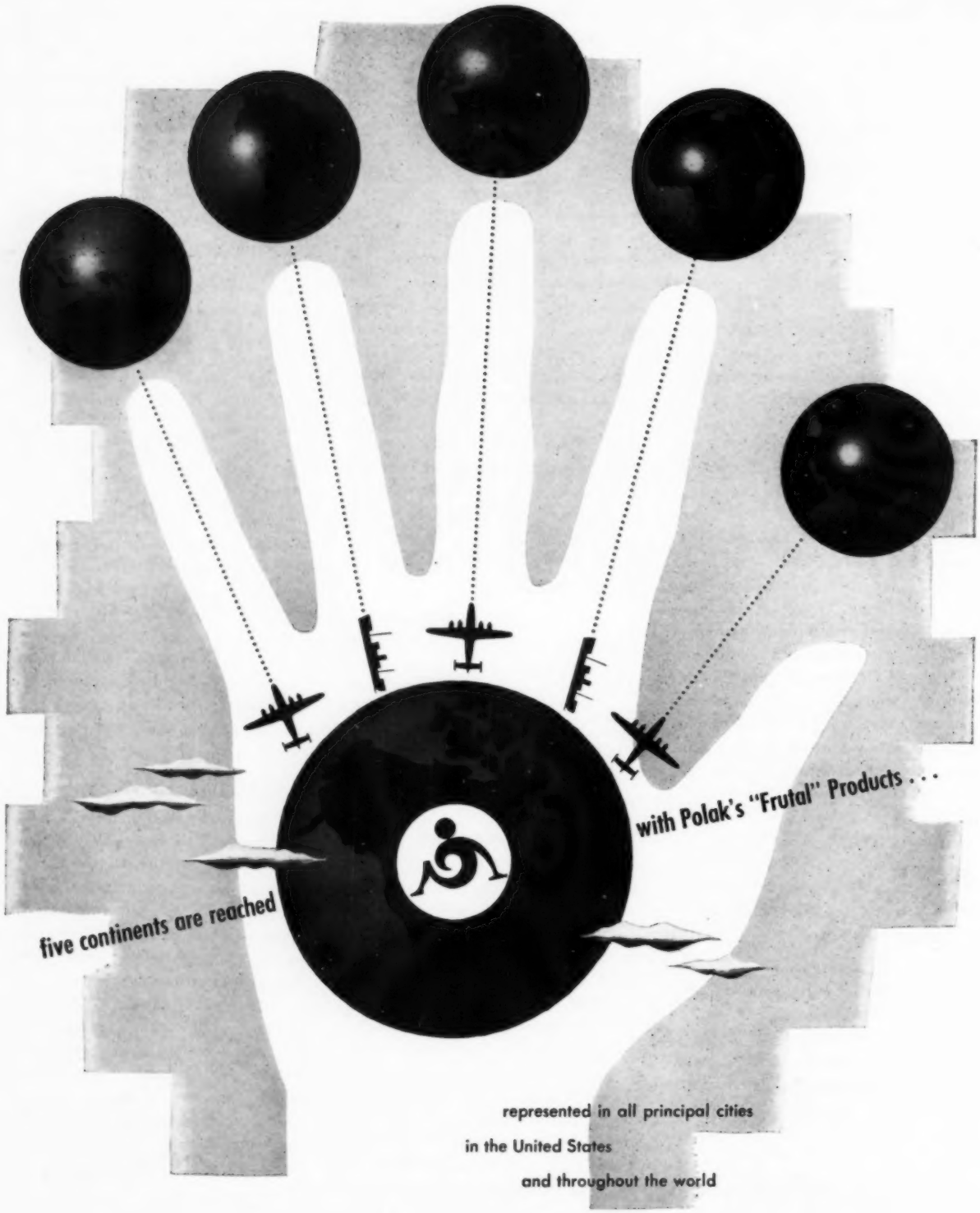
Specialty Products

NON-IONIC surface active agents are important ingredients of some specialty products such as spot-

* Smith, A. C., Lowe, C. S., and Fulton, G. P,. Ind. Eng. Chem. *32*, 454 (1940)

† Registered Trade Mark, Atlas Powder Co., Wilmington, Del.

(*Turn to Page 57*)



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Hard Surface Cleaners

By Jay C. Harris*

Monsanto Chemical Company

Part I

MUCH of the evaluation work reported for detergents is concerned with their usage in cleaning textile fabrics. Perhaps the cleaning of hard surfaces such as metals, glass, ceramics, asphalt tile or linoleum, or paints may appear much less complicated than cleaning fabrics, or the potential outlet may seem smaller. Whatever the comparative difficulties of the two sets of cleaning problems, however, the general field of hard surface cleaning merits more attention, and there may be application of data from one "hard" surface to another, or to "soft" surfaces that are valuable. This paper will discuss some of the factors involved in hard surface cleaning, show some of the relationships which exist, and present data for several surface active agents used comparatively for cleaning cotton fabric and a painted surface. Several of the factors which influence the attraction for, and adherence of soil to surfaces may be

Free surface energy
Electrostatic charge
"Ion exchange" capacity
Chemical reactivity of surface
Specific surface area
Roughness of surface

This list is admittedly incomplete and in many respects the factors are overlapping in their effect. They are representative however, and will be discussed with samples from the literature.

Free Surface Energy. According to Adam (1) a liquid surface contracts spontaneously because there is free energy associated with it. Consequently some definite amount of work must be done to extend or expand that surface, and the term surface tension is a mathematical expression of free surface energy. The surface tension or free energy of a solid may be spoken of as the average work required to produce one square centimeter of fresh surface. As an example, an amount of free surface energy is produced as a result of cutting a metal. This free energy can be satisfied, as in wetting, cleaning, or soiling by a liquid (or substance) which most nearly satisfies the available free energy. An oil, which has a relatively low surface tension, is more likely to satisfy the free energy requirements of metal than is pure water because of the difference between their surface tensions. However, if a surface active agent were added to the water, then the resultant solution approaches or surpasses the oil in its ability to satisfy the free energy of the metal surface. As a matter of fact, the solution of surface active agent may actually replace the oil surface from the metal because of the lower interfacial tension produced.

The possibility of deposition of a greasy layer of contaminant by simple settling from the air was investigated by Macauley (2). He found that the power of freshly split mica to seize (by friction) was lost much more rapidly if the freshly cleaned surfaces were placed uppermost, than if the plates had been positioned vertically with some protection against air currents which might bring grease particles onto them. However, if placed with the cleaned faces downwards the flakes retained their power of seizure for several days. The traces of grease also greatly decreased the ease of wetting and increased the contact angle against water. Such greasy films result from the combustion of fuel oil, coal, gas and wood. They are present everywhere and are the base upon which solid particles become embedded. Another practical example of such deposition would be the road film upon automobiles and other automotive surfaces.

Electrostatic charge. Since free surface energy is present to varying extents in all surfaces, and since some plastic surfaces either possess or can be made to have a considerable electrostatic charge, they tend to attract and hold dirt quite tenaciously. It is possible to reduce electrostatic charge, and reduce soiling, by treating the surface with a solution of cationic surface active agent (3).

Ion Exchange and Chemical Reactivity. Other surfaces which attract substances are those which are chemically reactive. Examples are glass, ceramic surfaces, certain types of resin surfaces, and perhaps paints. This type of attraction for soil results from what might be termed their "ion exchange" capacity. This may

* Presented at 37th Midyear Meeting, C. S. M. A., Chicago, April 30.

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THE ALL-PURPOSE DETERGENT SILICATE

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DRYORTH*

THE HEAVY-DUTY DETERGENT SILICATE

Cowles DRYORTH, anhydrous sodium orthosilicate, is a powerful, speedy, heavy-duty cleaner with valuable penetrating and wetting-out properties, reinforced dirt-removing power and unusual emulsifying action. It is an anhydrous, free-flowing powdered silicate containing not less than 60% Na_2O, which may also be used as an economical constituent of high pH cleaning compounds.

CRYSTAMET*

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Cowles CRYSTAMET is a pure, perfectly white, free-flowing granular pentahydrate sodium metasilicate with the normal 42% water of crystallization. Suggested for compounding when it is desirable to lower the concentration of a finished product. Readily soluble—chemically stable—easy to handle. Can be used on medium pH jobs.

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account for much of the trouble that is encountered in the use of certain types of plastic tableware, the plastic itself being comprised of chemically reactive base exchange groups.

Hensley, Long, and Willard (4) investigated sodium ion adsorption using the radioisotopic technique, and found that the sodium ion from sodium carbonate, was adsorbed and tenaciously held both by metal surfaces and by glass. In fact, glass may be considered as an ion exchange medium. Again, the surface condition of the metal or of the glass has considerable effect upon the degree of adsorption and tenacity. Surface activity agents may be deposited in much the same manner or perhaps even more extensively, because of their structural tendency to align themselves at interfaces.

Adsorption may be said to be a function of the specific reactivity of the surface and of the type of surface area involved. Textile fabrics, therefore, would have tremendously greater surface areas than a hard surface such as glassware, a painted surface, vitreous enamel, tile floor, or other of the many metal and nonmetallic surfaces encountered in construction materials. Textile fabrics are largely used in the form of garments, at least those that are laundered frequently, but also may be used as materials of construction or as floor surfacings. Personal garments such as shirts or shop clothing may be badly soiled, the soil simulating or being a stain; however, these garments can be processed in a cleaning operation in a machine by which mechanical action may be applied to the surface in question. In contrast, hard surfaces seldom can be so treated unless they are small and lend themselves to transportation. Obviously, glassware and dishes are washed frequently, can be transported and therefore can be washed by machine. Metal cleaning is likewise an operation which has been mechanized, but even here such large surfaces may be fabricated that other than machine cleaning operations must be used. In this category would fall building surfaces or other large areas which must remain in place, yet be rejuvenated in appearance.

Surface Area and Roughness of Surface. While a textile fabric offers tremendous surface area as result of its extremely minute fibre and yarn construction, hard surfaces likewise exhibit a considerable degree of roughness or porosity dependent upon the polishing operations used. Microscopic examination of metal surfaces, of vitreous enamel, of glassware, linoleum, asphalt tile, etc., will indicate that there is considerable unevenness or porosity which suggests the possibility of entrapment of soil particles. Even well polished painted surfaces are uneven or porous and can hold dust and dirt particles which come into contact with them. In most areas there is the possibility of coating a previously essentially smooth surface with a minute film of house grease, and/or air-borne industrial grease, which entrap solid soil particles.

Spring, Forman and Peale (5) investigated the effect of surface condition of metals upon the ease of soil removal. Brush analyzer tracings were made of surfaces to be cleaned and they showed that with a particular soil used, (which was a medium viscosity mineral oil), and with the cleaning agents under investigation, that the surface roughness of cold-rolled steel had little effect upon soil retention. However, surface conditioning as exemplified by acid etching or pickling, indicated that the reactivity of such surfaces was increased markedly, making the soil much more difficult to remove. They suggested in the case of mineral oil that the surface oxide satisfied the residual valence forces of the molecules at the surface, causing adhesion of the oil to be relatively weak. However, removal of the oxide could have changed that condition, increasing the tenacity of oil adherence. They found that actual droplet spreading of oil on metal surfaces was increased by pickling and that oil did not spread readily on surfaces that had been passivated or covered with a thin oxide film. It is suggested that removal of the oxide film was accomplished by much "work", leaving a surface of relatively high free energy, thus accounting for the increased difficulty in soil removal.

Surfaces have a "memory"; they remember the kind of material with which they last came into contact. In other words, a surface dipped in an oil type solvent, then dried, will be more readily wetted by other oils than by water. This ability to "remember" is an important factor in subsequent removal of soil from surfaces, making easier aqueous removal of soil from a surface that has been previously washed with a water soluble type cleansing agent. Again free surface energy consideration may be the underlying explanation.

This memory factor can be put to good use. In textile fabrics starch as a sizing agent has been used to promote the greater ease of removal of soil deposits, the soil being deposited on a readily removable surface. More definite steps have recently been suggested (6) by utilizing carboxymethyl cellulose as the protective agent. The theory in this case is that the surface actually tends to repel soil, and whatever small amount of soil is deposited, is more readily removed because it has less affinity for the fabric than for the material with which the fabric has been effectively coated. Since it has been found possible to reduce the electrostatic charge on plastic surfaces through the use of cationic agents (3), perhaps this same technique may be used effectively on surfaces other than plastics.

An interesting investigation was made by Leonard (7) on floor coverings, which indicated that certain kinds of cleansing agents tended to prevent free soiling of floor coverings more readily than others. This was attributed to their apparently inherent ability to repel soil, while other agents, perhaps because they were adsorbed or were oily in character, tended to accumulate dirt.

The technique described by Utermohlen (6) in which carboxymethyl cellulose is used as a soil preventing film on textiles has been used for many years in application of a certain brand of alkaline paint and wall cleaner which utilizes gelatin to provide a protective film. Carboxymethyl cellulose might likewise be used in such compositions provided costs were not excessive, while another

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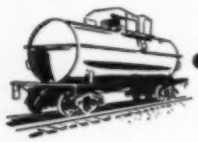

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material (Stymer-Monsanto) has likewise been proved successful.

There is a reasonably close analogy between the cleaning of metal and of other hard surfaces. The soils may be similar, the surfaces may be similar in roughness or porosity, and it is a fact that the amounts of surface active agent used in formulations for hard surfaces and for metal cleaning are similar, only relatively small proportions being found necessary (though the alkaline constituents may vary appreciably). Metal cleaning compositions utilize small percentages of surface active agents with relatively large proportions of alkaline salts. The same is true in general for paint cleaners, wall cleaners and the like.

Evaluation Methods. For most effective results, essentially all cleaning operations are accomplished by some degree of mechanical action. Therefore in the evaluation of cleaning agents it may be expected that some machine will be used to provide a reproducible means for attaining the cleaning operation. In dishwashing, a number of different mechanical devices have been developed for performing the washing operation. Mann & Ruchhoft, (8), Machlis and Michaels (9) used different kinds of mechanical apparatus for estimating soil removal from glassware. Other investigators (10, 11) utilized mechanical dishwashing machines for practical estimation of the same type of cleaning. In all these cases some synthetic soil or combination of soils was used in determining the cleaning effect of the materials under test.

Bureau of Ships Specification 51S46 (Soap; Salt-water, Bar Form) and Federal Specification P-C-431 (Cleaner; for Painted Surfaces, containing Synthetic Detergents) accomplish controlled removal of a synthetic soil from painted surfaces. This consists of scrubbing with the cleaning solution, rather than immersion in a bath as in a washing machine for glass or metal cleaning.

A previous paper (12) on the subject of the application of this method to linoleum and paint cleaners indicated that the panel washability method could be applied to those surfaces, provided adequate precautions were taken, both in the preparation of the panels and the utilization of a standard detergent for comparison purposes. The present paper is concerned with utilization of this method, comparing surface active agents of known cotton soil detergency characteristics with the results obtained by the scrubbing technique, both alone and in combination with certain alkaline builders.

EXPERIMENTAL

Methods. The cotton scouring method has been adequately described elsewhere (13) and the method of operation used in paint cleaning has been likewise described (12).

Briefly, the cotton scouring operation utilizes the Launderometer technique and a soiled cotton fabric. The fabric is washed by a multiple wash technique and the detergency evaluated by reflectance means.

The paint washing technique utilizes a cellulose sponge and wiper apparatus and a standardly soiled and baked painted panel. Again reflectance is used as a means for determination of soil removal and comparative cleaning efficiency.

In both tests it is desirable that standard detergents be used for comparison purposes because of inherent variations both in the soils and in the painted panels. By such comparison it is possible to relate different data made with various batches of soil and yet provide a common basis for evaluation. Furthermore, statistical methods are used in the comparison to be certain that differences are real.

EXPERIMENTAL

Conditions Observed

A. Distilled water was used in these tests.

B. Four replicate panels were washed for each average cleaning efficiency value.

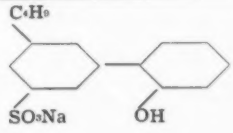
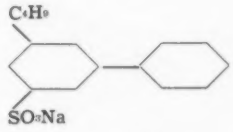
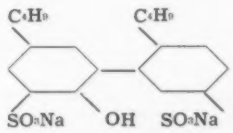
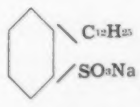
C. The cotton soil washing tests were the average of at least two

(*Turn to Page 57*)

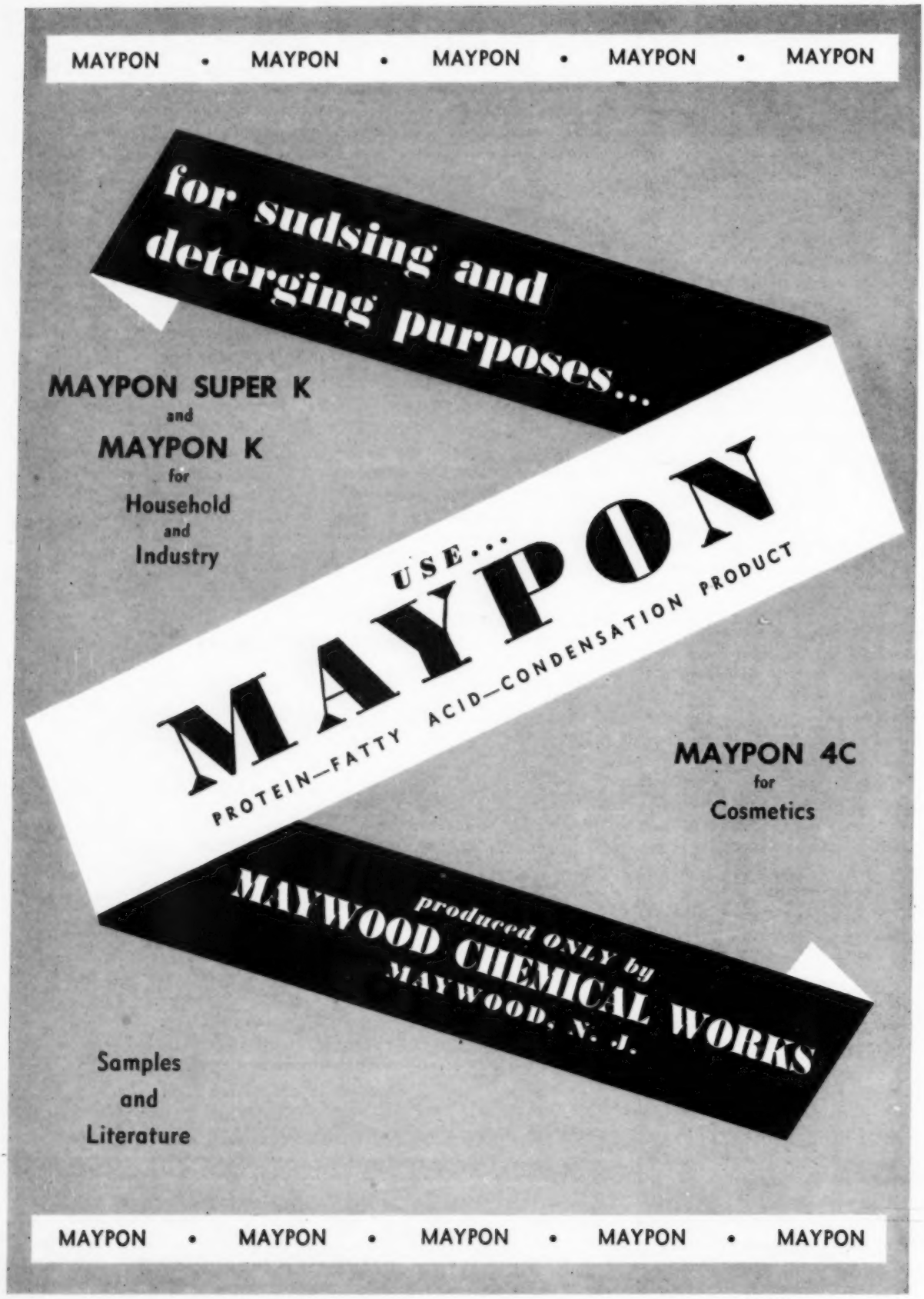
MATERIALS USED

SURFACE-ACTIVE AGENTS

Commercial Grades

Trade Name	*Per Cent Active*	*Type Product*	*Structural Chemical Formula*
Areskap 100	99+	Fine Powder	
Aresket 300	99+	Fine Powder	
Aresklene 400	99+	Fine Powder	
Santomerse No. 3	99+	Fine Powder	
Santomerse No. 1	40	Flake	
Sterox SK	100	Liquid	Polyoxyethylene ether

Note:—Covered by following patents: U. S. 2, 161, 173 and 4, U. S. 2, 283, 214, U. S. 1, 921, 546, U. S. 1, 994, 927, U. S. 2, 355, 592, and U. S. 2, 359, 291, U. S. 2, 135, 978, U. S. 2, 218, 472, and U. S. 2, 267, 205.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Show New Cleaning Compounds at Natl. Restaurant Exposition

DETERGENTS for removing stains from plastic dishware were prominent in displays of sanitation chemicals at the National Restaurant Association's 32nd annual convention and exposition held on Chicago's Navy Pier, May 7 to 11. Noted, too, among new sanitation equipment shown by various manufacturers, were electronic devices for controlling strength of detergent solutions in mechanical dishwashers.

The increasing attention which restaurant operators are giving to sanitation was evident in the large number of sanitation chemical manufacturers exhibiting. Twelve years ago, in 1939, only four makers of such products were represented at the restaurant men's meeting. All four of these, Calgon, Inc., the Dubois Co., Economics Laboratories, and Wyandotte Chemicals, were present this year, and with them were seven others, plus several sanitation equipment makers. Occupying space at the show, also, were the National Sanitation Foundation and the U. S. Public Health Service, whose representatives presented their special programs for promotion of sanitation in public eating places.

Among those companies exhibiting, their products and persons in charge were:

Calgon, Inc., Pittsburgh, exhibited "Silver Rinse," a new washing powder, and other Calgon products. Also shown was the Calgon electronic dispenser for controlling strength of solution in mechanical dishwashers of all types. C. C. Keck, sales manager, in charge.

Dubois Co., Cincinnati, featured five new products: "D-Lite" for glassware and hand dishwashing; "S-U-D-S," a washing compound for pots and pans; "S. A. F.," for general use on bakery pots and pans; "Neutralave," concentrated liquid floor cleaner; and "Neutra-Gloss," liquid floor wax. Also featured was "K-O-L," hard water control compound. First public showing was made of a new electronic dispenser, with visual soil load indicator, which automatically does the "thinking" for mechanical dishwashers. Displayed, too, was a "Whirl-A-Wash" glass washer, given free to volume purchasers of "D-Lite." Staffing the booth were T. V. Dubois, founder and president; three vice-presidents, Louis Lerner, Edward Breckel and Chas. Dubois; Paul Goebel, assistant secretary and treasurer; John M. Welch, director of customer relations, and C. C. Hargadine, sales manager, central division.

Economics Laboratories, Inc., St. Paul, Minn., displayed "Silva-Dry," new chemical product for use with a method devised to eliminate hand-toweling of silverware; and a new bleach for removing stains on plastic dishes, without scouring powder or hand rubbing cleansers. Other products featured included "Tetrox," for hand washing of glasses and dishes; "Pan-Dandy," for pots and pans; "Soilmaster" for heavy duty mechanical dishwashing; "Electra-Sol," for home dishwashing machines; and various formulations of "Soilax" detergents for different purposes. Demonstrations were made of the Economics electronic dispenser concentration control for dish and glass washers. Representing the firm were: Paul Evans, sales manager; Harry Riemen, assistant advertising manager, and R. C. Harland, Chicago regional manager.

Wyandotte Chemicals Corp., Wyandotte, Mich., made its first public showing of "Salute," machine dishwashing compound. It is claimed to have special properties for removing stains on plastic and chinaware. The product is now available for nationwide distribution. Also presented was the general line of Wyandotte maintenance cleaners, germicides and deodorants. Booth decorations included an illuminated, revolving globe which emphasized the company slogan, "Cleaning the World." In charge, F. M. King, manager, food and restaurant and special detergent department.

E. F. Drew & Co., New York, featured a new all purpose product, "Napsol," with a pH of 7.5 and no reverse emulsion property, making it especially effective for fat consumption. Other products displayed included "HTC-Chlor," for washing plastic dishes; "Glow-Nap," for manual glass washing; "HTC," an anhydrous dishwashing compound and germicide; and various synthetic powdered and liquid soaps for cleaning pots and pans, floor washing and rest room cleaning. J. Vincent, national sales manager, in charge.

Kleenzade Products Co., Beloit, Wis., made first showing of a new automatic wash tank charger for detergent control in spray type mechanical dishwashers. Three new products shown included "Plasti-Klenze," detergent for plastic dish dips and mechanical washers; "Flash-Klenze," new organic acid detergent to control lime on steam tables, etc.; and "KDG-1," detergent and germicide for dish washing and for odor control on floors. Other selective items from the company's standard line of 45 products with particular appeal in the institutional food service field were also shown. Thomas D. Laughlin, manager, institutional division, in charge.

Specialties Appliance Co., Chicago, showed "Sea Powder," a compound for cleaning greasy kettles and deep fryers.

Antiseptol Co., division of W. F. Straub & Co., Chicago, featured two products: "Soap No. 44," a potash soap combined with synthetic detergents to use with dispensers of 10 to 20 pounds capacity for pots and pans, and general kitchen cleaning; and "S-440," a jelly-like, fast dissolving synthetic detergent fused with green oil soap, for washing dishes, glassware, silverware, pots, pans, utensils, etc., and for cleaning tables, stoves, refrigerators, floors, walls, etc. E. E. McDow president, and C. W. Maunder, New York representative, directed the presentation.

Diversey Corp., Chicago, showed their "Divomatic" detergent dispenser with electronic control for

KEYSTONE OF QUALITY...

Midway between its production and use there is a stage at which the quality of a perfume is definitely established. In our company, this detail is the responsibility of our Control Laboratory which we regard as the keystone of **FRITZSCHE** *quality. Here, samples of every incoming material are subjected to a prescribed series of analyses and tests before their acceptance for stock. By this system of precision screening we are able to detect any off-standard characteristic and to reject or re-work the involved lot as may be required. In this way, we maintain uniform, peak quality and our customers are assured — **at all times** — the finest basic ingredients and compounds for their finished goods.*

FRITZSCHE *Established* 1871
Brothers, Inc.

PORT AUTHORITY BUILDING, 76 NINTH AVENUE, NEW YORK 11, N. Y.

BRANCH OFFICES *and* *STOCKS: *Atlanta, Georgia, Boston, Massachusetts, *Chicago, Illinois, Cincinnati, Ohio, Cleveland, Ohio, *Los Angeles, California, Philadelphia, Pennsylvania, San Francisco, California. *St. Louis, Missouri, *Toronto, Canada and *Mexico, D. F. FACTORY: *Clifton, N. J.*

mechanical dish washers. Among chemical specialties featured were: "Ampolite," mechanical dishwashing compound; "Plyokem," liquid floor cleaner in new formulation to eliminate slip hazards; "Plyowax," a water emulsion wax; "Diversol," bactericide, for dish rinsing, disinfection of garbage containers, etc.; "China Dip," for removal of milkstone on glassware, stains on plastic dishes, etc. J. P. Molis, promotional manager, maintenance products division, in charge.

Peck's Products Co., St. Louis, in their first appearance at the restaurant exposition, featured "Pex," a new liquid detergent. With it was demonstrated the patented "Pex Foamadaptor," a dispenser for attachment to a sink faucet. Half an ounce in a gallon of water is recommended for making billowing foam in abundance. Leo Peck, vice president, and Jack A. Barry, of the St. Louis sales office, headed a crew of field salesmen at the booth.

Culligan Zeolite Co., Northbrook, Ill., demonstrated its zeolite water softening system and service for the restaurant trade, with J. B. Linsky, market research director, and J. W. Steiner, director of commercial and industrial sales, in charge.

American Aerovap, Inc., New York, demonstrated its "Aerovap" electrical device for control of flies, other insects and air borne germs, through heat vaporization of lindane under thermostatic control. The device, which is plugged into an electric socket, holds enough insecticide to treat 20,000 cu. ft. of space at one setting. Joseph A. Moran, president of the company, in charge.

Kent Co., Rome, N. Y., only floor maintenance equipment manufacturer exhibiting, demonstrated their wet and dry pickup commercial vacuum cleaners, scrubbing and polishing machines, with C. E. Clifford, sales manager, in charge.

Geerpress Wringers, Inc., Muskegon, Mich., showed their regular line of mopping equipment and a new broom hanger. Elmer H. Bard, president, and David L. Bard, secretary-treasurer, represented the firm.

Dayless Mfg. Co., Chicago, demonstrated their "Kleen-Rite" foam rubber mops for dusting, waxing, scrubbing floors and washing walls. L. Hoffman in charge.

Oliver Mfg. Co., Racine, Wis., had a hand-operated "Whirl-A-Way" glass washer, recently redesigned to incorporate ideas developed by user experience. Six other makers of glass washing equipment and 19 mechanical dishwasher manufacturers were also represented among the 357 companies exhibiting.

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A.T.S. Show Aug. 19-24

The Associated Toiletries Salesmen of Chicago will hold their 10th annual trade show at the Palmer House, Chicago, Aug. 19 to 24. Some 75 manufacturers of soaps, cosmetics, perfumes and toilet accessories have engaged all available space on the hotel's seventh floor, W. R. Tenney, organization secretary, and Chicago representative of Lentheric, Inc., announced.

Organized nearly ten years ago, this Chicago show has steadily grown in popularity and is expected to attract 4,000 buyers this year, Mr. Tenney said. President of the organization this year is H. R. Adamson of Schiaparelli, and J. H. Clock of Jacqueline Cochran is vice president.

Hard Surface . . .

(*From Page 53*)

duplicate washings made according to the procedure already described.

D. Solution concentrations investigated for panel washing were 0.5%, 0.25%, and 0.125%.

E. The cotton wash tests were made at 50 and 300 ppm. water hardnesses and 0.2% solution concentration.

F. For the panel test trisodium phosphate was used at a 1% concentration level as a control for each batch of soil panels prepared.

G. A standard detergent (Santomerse No. 1) was used as the comparison agent for the cotton soil test.

(To Be Concluded)

Tighten Export Licensing

Validated export licenses for refined coconut oil, crude, edible or refined palm oil, castor oil or commercial, medicated grades or sulphonated castor oil and sperm oil, and DDT and benzene hexachloride insecticides are now required for shipment from the United States. Canada is an exception to the order, which became effective March 20 as a result of revisions to the positive list announced March 15 by the Office of International Trade. Validated export licenses are required for shipments having a value of more than $250.

Non Ionics . . .

(*From Page 47*)

ting fluids. For example, an aqueous spotting fluid may consist of a 2 per cent solution in water of a non-ionic detergent.

A spotting fluid containing water and other solvents can be made with a combination of non-ionic surface active agents, water and suitable solvents. For example, the following composition gives a clear product, which is useful as a spotting fluid.

18.5%	Renex*
9.5%	Arlacel C**
32.0%	Stoddard Solvent
4.0%	n-Butanol
4.0%	Isopropanol
32.0%	Water

Summary

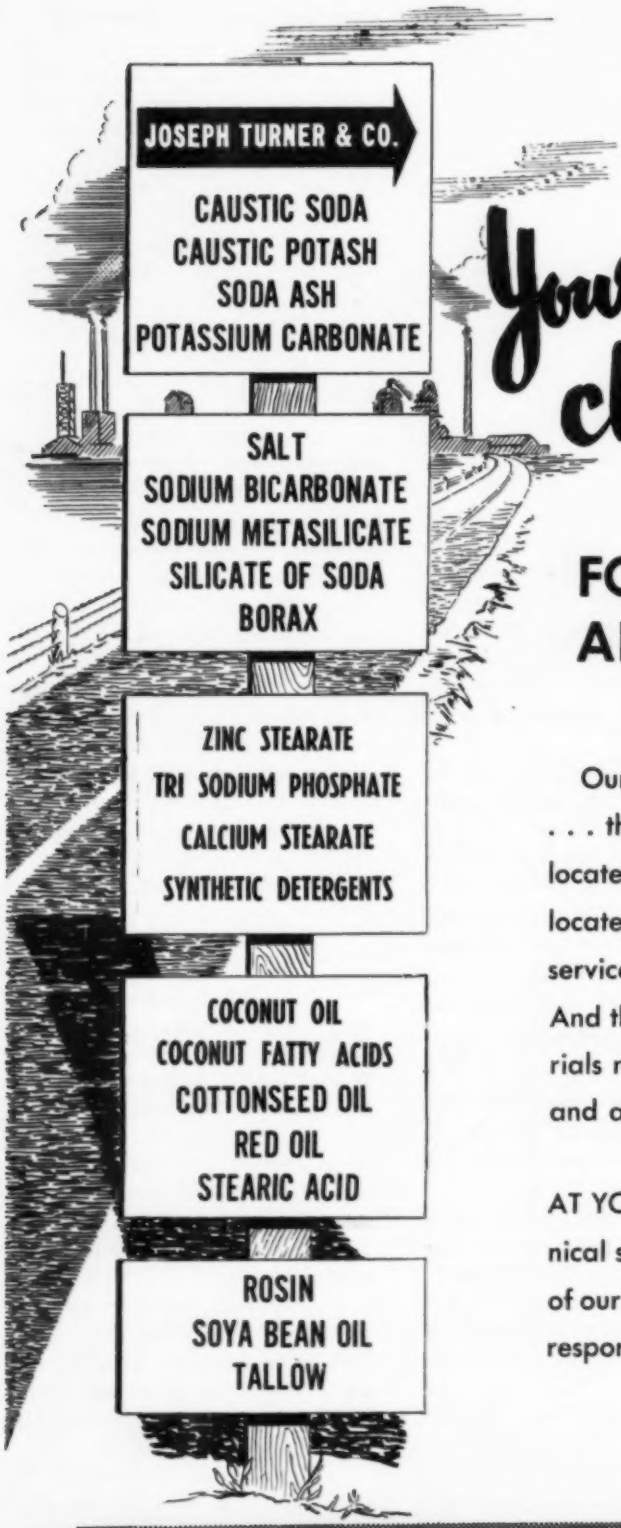
NON-IONIC surface active agents are excellent products for manufacturing dry cleaning detergents. These detergents show excellent cleaning ability, high whiteness retention, no odor development, good emulsifying properties of the desired type, and economy in use.

Non-ionic detergents are very useful in the wet-cleaning department. They show excellent detergency on many types of fabrics; are non-injurious to dyestuffs; and they are useful in acid or salt solutions.

Surface active agents of the non-ionic type are important and effective ingredients of many specialty products, most important of which to the dry cleaner are the spotting fluids.

* Registered Trade Mark, Atlas Powder Co., Wilmington, Del.

** Registered Trade Mark, Atlas Powder Co., Wilmington, Del.



Your road to better chemicals... plus

FOR THE SOAP AND ALLIED INDUSTRIES

Our customers get a *plus* with every order . . . that *plus* is service facilitated by stocks located in strategic cities. Our centrally located Chicago office gives fast, complete service to the Midwest and West Coast areas. And that *plus* is in stocks of many raw materials necessary for the manufacture of soap and allied products.

AT YOUR DISPOSAL: Our experienced technical staff and facilities. Inquiries to any one of our offices will bring prompt and courteous response.

JOSEPH TURNER & CO

83 Exchange Place, Providence, R. I. RIDGEFIELD, NEW JERSEY 435 N. Michigan Ave., Chicago, Ill.

TRADE NEWS

New Babbitt President

Samuel Mendleson was elected president of B. T. Babbitt, Inc., New York, at the annual board meeting May 7. He succeeds Alan N. Mendleson, who becomes chairman of the board. The new Babbitt president attended Albany Academy, Albany, N. Y., and Williams College, Williamstown, Mass., class of 1922. He joined B. T. Babbitt, Inc., in 1920. He was elected to the board of directors in 1931, and was named executive vice-president in 1946.

SAMUEL MENDLESON

ALAN N. MENDLESON

Swift Advances Yocom

R. W. Yocom, formerly in the industrial soap division of Swift & Co., Chicago, was appointed recently as district soap manager for Swift in Charlotte, N. C. He is handling all sales of Swift's soap in North and South Carolina and in southern Virginia. He received his A.B. degree in chemistry and bacteriology at the University of Illinois in 1935, and joined Swift & Co. the following year. First he served as a chemist and later as a technical sales representative.

R. W. YOCOM

Raymond M. Murphy Dies

Raymond M. Murphy, vice-president of Murphy-Phoenix Oil Co., Cleveland, died May 6. He was 62 years old. His father, the late Jeremiah T. Murphy, founded Phoenix Oil Co., commercial oil dealers and manufacturers of "Murphy's Oil Soap."

Werk Plant Auction June 6-7

The entire machinery, equipment, supplies, office furniture and goodwill of M. Werk Co., Cincinnati, for over 112 years manufacturers of soaps, detergents, fatty acids, etc., were announced for sale recently. The auction sale was to take place June 6 and 7 and to be conducted by First National Liquidators, Inc., Chicago. Included among the soap department equipment listed for sale is a spray drying tower, which was said to have cost $350,000, when it was new in 1947. Kettles ranging in size from 25,000 to 180,000 pounds, two complete drier assemblies and soap crutchers, as well as filter presses are also up for auction. Company trade names to be sold include "Tag" soap, "Werx", "Disho", "Werko", "Alba" stearic acid, etc. The buildings which housed the plant have been sold and must be vacated, the company states.

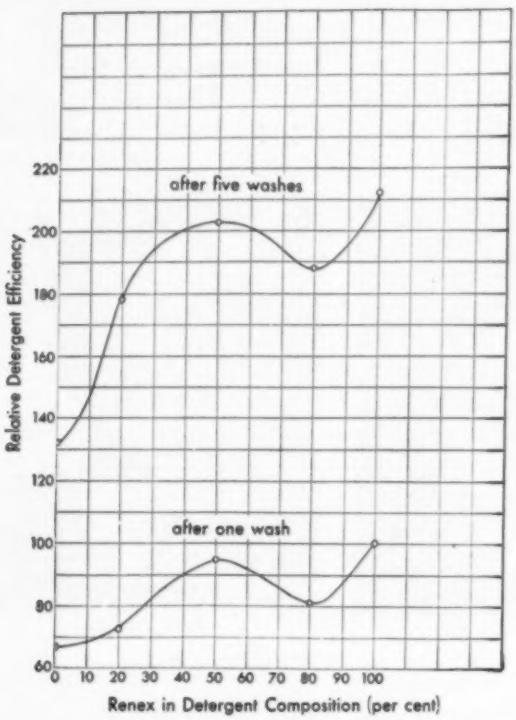
Soap Fat Use Up in March

Reported consumption of animal and vegetable fats and oils for soap during March increased as compared with February, according to figures just released by the Bureau of the Census of the U. S. Department of Commerce, Washington, D. C. The March total was 184,450,000 pounds, as compared with 179,975,000 in February. The January total was 184,587,000 pounds. The March figures show 14,455,000 pounds of fats and oils reported used in synthetic organic detergents, which are part of the grouping "other inedible products".

New at Essential Chemicals

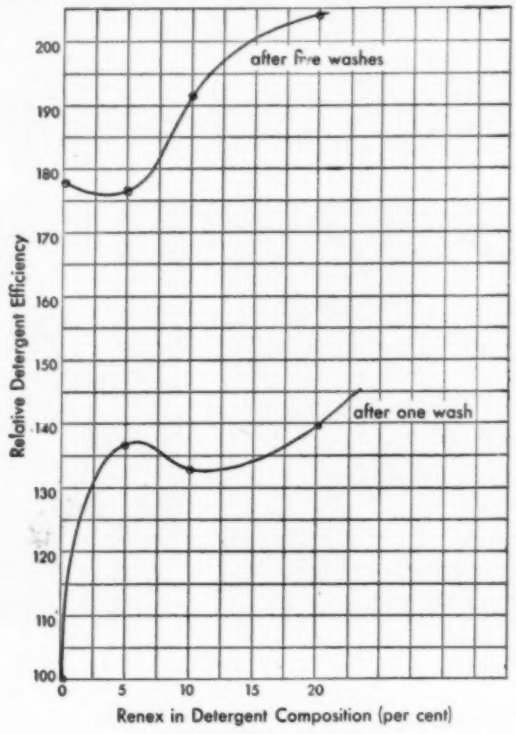
The appointment of a new purchasing agent and a new sales manager of the industrial and institutional division of Essential Chemicals Co., Milwaukee, was announced recently. William F. VanDeven, formerly special representative of Procter & Gamble Distributing Co., Cincinnati, has been named sales manager of the industrial and institutional division, specializing in soaps, detergent cleaners, etc. Edward F. Lasek, formerly with Lakeside Laboratories, Milwaukee, and Mallinckrodt Chemical Works, St. Louis, is the new purchasing agent. The announcement of the two appointments was made in connection with an expansion program now underway.

Here's How **RENEX*** Boosts the Efficiency of Soap and Other Detergents...



RENEX WITH TALLOW SOAP

This graph shows a comparison of the detergency in hard water (300 ppm) of various combinations of RENEX with tallow soap. Note that the detergency of a 50–50 combination is from 40% to 55% greater than tallow soap alone. (Total detergent concentration = 0.25%.)



RENEX WITH ALKYLARYL SULFONATES

This graph shows effect of RENEX on detergency of alkylaryl sulfonates. Note that the detergency increases over 30% with addition of only 5% RENEX. (Total detergent concentration = 0.25%.)

(In washing standard soiled cotton fabric)

RENEX steps up the efficiency of soap, alkalies, or sulfonates . . . helps you solve virtually any cleaning problem by producing compounds tailor-made to the requirements of your market for household, industrial, or military detergents.

With **RENEX**, detergent power in hard water is built up as high as 50% greater than tallow soap alone—nearly 20% greater than ordinary built soaps! And RENEX-soap compounds do away with hard water "rings" and scum.

RENEX is versatile. Dairy cleaners, floor cleaners, machine cleaners, and textile scouring agents are just a few of the many types of cleaning compounds in which RENEX makes the difference between "ordinary" and "excellent." And because RENEX can be used to hold down useless foam, it is ideal for cleaning compounds for automotive home dishwashers and laundry machines.

RENEX is low in cost, as well as high in efficiency. Write today for latest literature which includes typical formulas for compounding. Samples available for research.

*Reg. U. S. Pat. Off.

ATLAS INDUSTRIAL CHEMICALS DEPARTMENT

CHEMICALS ATLAS EXPLOSIVES

ATLAS POWDER COMPANY, Wilmington 99, Del. • *Offices in principal cities* • *Cable Address—Atpowco*
ATLAS POWDER COMPANY, CANADA, LTD., Brantford, Canada

F.T.C. Hits Soap Pricing

A hearing on charges of alleged price discrimination against small business by Lever Brothers Co., New York, Colgate-Palmolive-Peet Co., Jersey City, N. J. and Procter & Gamble Co., Cincinnati, will be held in New York, June 18, it was announced recently by the Federal Trade Commission, Washington, D. C. Early last month they were charged by the Federal Trade Commission with charging small business firm higher prices for soap products than they charge larger competitors. In addition, the amended complaints state that the soap firms grant "rebates" to some customers when making changes in the current selling price for one or more products. These are granted to certain buyers on products purchased but not resold before the effective date of the new sales prices, according to the F.T.C.

No rebates are given to other purchasers who compete with the favored customers in the resale of soap products, the F.T.C. charges. The complaint also states that the three soap firms give rebates in price on various soap products which "favored" customers move from storage to places of sale during a specified period. Other customers who compete in the resale of soap don't get rebates, the F.T.C. says.

Lever Brothers Co. is also charged with notifying some customers of price increases, enabling them to make purchases at the lower price, then sell at the new price.

Benzene Export Quota

The Office of International Trade, U. S. Department of Commerce recently announced an export quota of 105,000 gallons of benzene for the first half of 1951. Exports of benzene have been controlled since before World War II. The shortage of benzene requires closer control of exports.

The quota is expected to meet the limited requirements of countries customarily importing benzene from the United States without hurting the domestic supply. Exports are normally small, and principally sent to Latin American countries and Japan.

Heads Pears Soap Sales

Benjamin Hirsch has been appointed merchandising coordinator of Pears Soap sales, which product is manufactured in England and distributed in the United States by Schieffelin & Co., New York.

Emery Coast Office

Direct sales and technical service coverage of the West Coast area on its complete line of chemical products, stearic acids, oleic acids, other fatty acids, plasticizers, oils and oil bases, was announced recently by Emery Industries, Inc., Cincinnati. L. J. Hadobas has been appointed to handle this coverage and is operating out of a newly established branch office located at Tilden Sales Building, 420 Market St., San Francisco 11. He has been associated with the Emery chemical sales department for the past several years. Warehouse stocks are being maintained to provide shipments of L.C.L. requirements to West Coast points.

Changes at Southern Alkali

E. T. Asplundh, vice-president since 1944 was named recently president of Southern Alkali Corp., wholly owned subsidiary of Pittsburgh Plate Glass Co., Pittsburgh. He has been associated with Pittsburgh Plate Glass Company's chemical operations since 1919, and has served as vice-president in charge of Pittsburgh's Columbia Chemical division since 1940.

Clarence M. Brown, board chairman of Pittsburgh Plate Glass Co. since 1931 and a member of Southern Alkali's board of directors since the subsidiary's incorporation in that year, has been named chairman of Southern's board, a newly created position. New directors and officers are Leland Hazard, vice-president and general counsel, and W. I. Galliher as vice-president. Additional directors are Richard B. Tucker and E. D. Griffin.

At the same time it was announced that Pittsburgh Plate Glass Co. transferred its Columbia Chemical Division to Southern Alkali Corp. Southern Alkali now operates chlorine, alkali and related chemical producing plants at Corpus Christi, Tex.; Barberton, O.; Natrium, W. Va., Lake Charles, La. and Bartlett, Calif.

Southern Alkali had been owned jointly by Pittsburgh Plate Glass and American Cyanamid Co., New York, until the sale of the latter's 49 percent interest to Pittsburgh Plate Glass Co., which held the other 51 percent.

E. T. ASPLUNDH

W. I. GALLIHER

LELAND HAZARD

KRANICH SOAPS

COSMETIC

Liquid Castile Soap Shampoo
Liquid Coconut Oil Soap Shampoo
Liquid Olive Oil Soap Shampoo
(50% Olive Oil Base)
Shampoo Base Soap

MAINTENANCE

Liquid Toilet
40%, 30%, 20% Coconut Oil
Potash Vegetable Oil
Soft 40%, Hard 65%, Scrub 20%

PHARMACEUTICAL

U.S.P. Green Soap
U.S.P. Powdered Castile Soap
Powdered Coconut Oil Soap

30 years in business and one of America's leading manufacturers of soaps ONLY is a testimonial to the standard quality of our products.

Kranich Soap Company, Inc.
54 Richards Street Brooklyn 31, N. Y.

KRANICH SOAPS

Peet Discusses Soap Price Rules

AT local luncheon meetings in three cities in the metropolitan New York area held during May under the sponsorship of the Association of American Soap & Glycerine Producers, activities of the Association and government regulations affecting prices were discussed. Roy W. Peet, AASGP manager presided, assisted by Malcolm Miller and Frank Luther of the Association staff. Meetings were held at the Hotel St. George, Brooklyn, May 9; at the Waldorf-Astoria Hotel, May 10, and at the Hotel Robert Treat, Newark, N. J., May 11. Similar local area meetings of soap makers were held last year by AASGP in Los Angeles and in Chicago.

In his opening remarks at the conference, Mr. Peet pointed out how the Soap Association membership had grown and expanded in its makeup. Last year, AASGP had 164 members, he said, and participation in the sales census has increased from 68 in 1948 to 95 in the first quarter of 1951. The increased number of persons attending the association's annual conventions has necessitated moving the meeting from the Plaza Hotel, New York, where it has been held for the past two years, to the Waldorf-Astoria Hotel, Mr. Peet pointed out. The 1952 meeting at the Waldorf will be held Jan. 22 and 23, he stated.

Topics of greatest interest to and most widely discussed by soap makers today are the various price regulations issued from Washington, Mr. Peet said. Soap makers, he pointed out, are interested primarily in five regulations: GCPR (General Ceiling Price Regulation), which is the general price order affecting all commodities at manufacturing, wholesale and retail levels. Following this regulation came CPR-10, which concurrently with a rollback in the price of tallow, rolled back prices of household soaps. Next came CPR-22, affecting many commodities, but in the soap industry applied specifically to industrial soaps. Date for compliance with CPR-22 has just been postponed to July 2nd. A new order is now understood to be in the making and is expected to be issued soon. It will set specific ceilings and cover all soaps, synthetic detergents and scouring cleansers sold in the industrial field including government bid business and military business. When issued, it is expected that this will eliminate the confusion caused in our industry by CPR-22.

CPR-7, Amendment 2, applies at the retail level on sales of soaps to buyers in the non-household field, and includes under category 908, item 4—powders and cleansers among other items. There has been some confusion as to whether this would include granulated soap, soap powders, synthetic detergents, and scouring cleansers. It is understood that an amendment is in the works which, when issued, will throw all of this out of CPR-7, Amendment 2, and leave it clearly under CPR-22. The new order referred to above will then take these products, and other industrial soaps, out of CPR-22, putting them under a special industrial order.

CPR-6, Amendment 6, recently issued, sets specific ceilings on soap stocks, but in addition to this, we understand an order is in the works and will be issued soon on various fatty acids.

Glycerine at the moment is under GCPR, but a special price order is said to be in the works and will be issued soon.

At the luncheon for New York City area soapers at the Waldorf-Astoria Hotel, New York, May 10th.

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OPS Price Relief for Soapers

The Office of Price Stabilization May 15 allowed a price rise to soap and cleanser manufacturers who were caught with low-priced "introductory offers" during the base period December 1-31, 1950. The order also covers wholesalers and retailers who were in the same predicament. The relief was granted soap manufacturers in Amendment I to Ceiling Price Regulation 10 and to wholesalers and retailers in Supplementary Regulation 27 to the General Ceiling Price Regulation, the general freeze of January 26, 1951. The base period under GCPR is December 15, 1950 to January 25, 1951.

CPR 10, Amendent 1 relating to introductory offers during the base period for household soaps and cleansers stated that soap companies which sold new items at low prices during the base period in December would be allowed to bring their prices back in line with competitors. This regulation also prevents a reduction in the number of brands available to the consumer.

The same relief was granted to the distributors of these products by GCPR, SR 27, which allows wholesalers and retailers to adjust prices on items that were being handled at low introductory offers during the base period to meet competitive prices. The order applies not only to soaps and cleaners, but to all other products carrying introductory prices at that time.

Hydro-Mugal

The ideal lily of the valley base, smoother than cyclamen aldehyde, more floral than Hydroxy Citronellal.

Stable in alkali

Non-irritating

Non-discoloring

Write us on your firm's letterhead for a sample of this versatile perfume material.

schimmel & co., inc.

601 West 26th Street, New York 1, New York

Pattison Joins AASGP

E. Scott Pattison, formerly executive vice-president of G. M. Basford Co., New York advertising agency, has been appointed manager of the Glycerine Division and of the newly organized Fatty Acids Section of the Association of American Soap & Glycerine Producers, it was announced May 24, by Roy W. Peet, association manager.

E. SCOTT PATTISON

At the same time it was announced that N. N. Dalton of Kansas City, who has been consultant to the AASGP on glycerine since the formation of the association in 1926, is retiring. Mr. Dalton was honored for his long service to the association during a meeting of the AASGP's board of directors in New York, May 24.

Mr. Pattison, who resigned his post at Basford, after having been with the agency since 1936, is a graduate of Rennselaer Polytechnic Institute in chemical engineering. He also studied business administration as Alfred P. Sloan Fellow at Massachusetts Institute of Technology. At one time he served as assistant editor of *Food Industries* magazine, and also was with Mathieson Chemical Corp.

In line with Mr. Pattison's appointment, it was pointed out that an expanded program involving promotional and research activities is currently being carried on by the Glycerine Producers group. Thirty-six producers of glycerine and fatty acids are currently affiliated with the work.

N. N. DALTON

Try to Save Fair Trade

Steps are being taken or are under consideration to save fair trade laws and agreements from being disregarded as a result of the U. S. Supreme Court's recent decision that only retailers who sign fair trade agreements must observe fair trade minimums, it was learned recently. Legislation designed to broaden fair trade coverage to situations where no agreement exists and litigation to prevent mass price cutting are reported being considered by legislative and industry groups.

Banta on Iowa Soap Board

No change in the name or operations of Iowa Soap Co., Burlington, Ia., is contemplated as a result of its recently announced acquisition by Ames, Emerich & Co. and Sills, Fairman & Harris, Inc., Chicago investment firms. Homer D. Banta, president for many years, and succeeded by John F. Hodson, formerly vice-president and general superintendent, retires from active management of the company but remains as honorary chairman of the board of directors. New directors include D. J. Harris, president of Sills, Fairman & Harris and Hubert L. Will, member of a Chicago law firm.

Expansion plans contemplated for the 60 year old soap firm include plant modernization and installation of new equipment, where necessary, to improve products. In addition to its Burlington plant, Iowa Soap Co. has a factory in Camden, N. J., which it acquired in 1934. Among its better known branded products are "Magic Washer" and "Nola" flakes and toilet soaps.

Wrisley Announces Changes

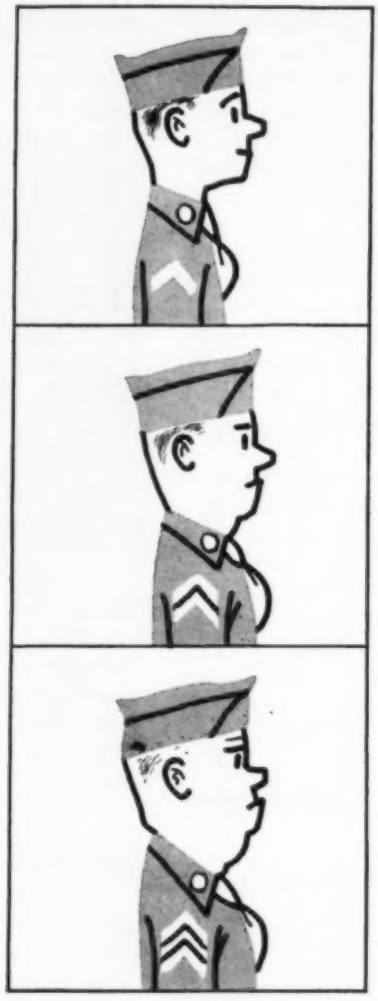
The appointment of George A. Wrisley, Jr., formerly manager of private brand sales as general sales manager of Allen B. Wrisley Co., Chicago, was announced last month. L. Norton Wrisley has been named assistant general sales manager and M. P. Rosenthal is manager of the special sales division. Newly appointed sales manager of the grocery division is R. E. Tyriver.

GEORGE A. WRISLEY, JR.

P&G Declares Dividends

Procter & Gamble Co., Cincinnati, declared recently a year-end dividend of 40 cents and a regular quarterly dividend of 65 cents on the common, both payable May 15 to stockholders of record April 25. This brings payments for the fiscal year ending June 30 to $3.

Gene Hesli, below, whose appointment as sales manager of Multi-Clean Products, Inc., St. Paul, was announced last month, previously was factory representative in Chicago and the midwestern territory.



Carbose promotes soap detergency, too

You're probably familiar with the job Carbose* can do for synthetic detergents. Well, it lends a helping hand to soaps, too.

Both built and unbuilt soaps will have increased soil removal and whiteness retention when Carbose is included in the formula. As little as from 3 to 5% Carbose added to a soap may increase its soil removal properties by 40% . . . may double its whiteness retention.

In a built soap, Carbose increases the amount of builder which may be added without sacrificing whiteness retention properties. Above a 3% concentration, it increases soil removal. In any concentration, it increases whiteness retention. We've got the figures to back this up . . . and we'd be glad to send them to you.

*Reg. U. S. Pat. Off.

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Washington Sidelights

AS the May 28th date approached when manufacturers' prices were scheduled to be rolled back to pre-Korean levels, Washington observers, anticipated a postponement in the effective date of the enforced roll-back. The postponement care through as predicted three days before the 28th. It moves the effective date back to July 2nd. The paper work which manufacturers must do to justify increases in their ceilings is recognized to be a tremendous task, and one which simply could not be completed by the date originally announced.

* * *

And if the price control picture is not sufficiently complex already, we have assurances it will get more so. An order covering wholesale and retail prices,—similar in scope to CPR 22 governing manufacturers—is reported now in preparation. It looks like a field day for the accountants of the country,—lawyers too.

* * *

Glycerine industry advisory committees were scheduled to meet in Washington May 22nd,—the OPS committee in the morning, and the NPA group in the afternoon. *(See Page 71).*

* * *

Three other new advisory committees met the previous week. Detergents and Sanitizers, May 17th; Waxes and Polishes, also Insecticides (Household, Industrial and Dairy), the following day. (See Page 173).

* * *

The wax and polish delegates have had a good opportunity to learn their way around Washington recently. The FTC hearings to discuss the final draft of the proposed trade practice rules on floor waxes and polishes were held May 11. One of the problems still plaguing the FTC,—and the industry too—is just how to define "wax" accurately. And when you get your definition, will shellac qualify as a "wax"? This seems to be the $64 question.

* * *

Look for some products which have been selling as floor waxes to come out in new dress. One manufacturer insists the answer to this "what's a wax" problem is to adopt the designation "floor polishes," adding the qualifying phrase, "contains wax and colloidal silica", for products which do not pass the FTC proposed 50 per cent minimum wax content.

* * *

The paint and varnish group anticipate issuance of a special price control order for their industry's products,—a permissible flat 15 per cent across-the-board increase over the July 1, 1950 levels. Some manufacturers of floor waxes and polishes would welcome similar treatment, and may try to have their products included under the paint and varnish schedule if such an order is issued. But it hasn't been issued yet, and most informed Washington watchers doubt that OPS will ever establish such a precedent.

* * *

Is the government holding the wage line? They have been trying, of course, but the battle is a discouraging one. Packing house employees have just cracked the line with a nine cent wage advance, and this will open the door for other wage increases. Then what happens to price controls on industry? It takes an actuary or a Math Professor to figure out the necessary calculations under CPR-22 to get relief.

* * *

L. N. Markwood is reported leaving N.P.A. for new duties with the Office of International Trade, where he is to join the Chemicals Division. He will be succeeded, according to Washington reports, by Phil Groggins, who will move over from U.S.D.A. to head the new Agricultural Chemicals Division of N.P.A.

Join Piatt & Smillie

Roland T. Hake and William L. Ward were appointed recently as district managers of Piatt & Smillie Chemicals, Inc., St. Louis. Mr. Hake attended St. Louis University and served with the U. S. Army in World War II. He has had an extensive sales background, including a seven-year span as sales manager for a home appliance firm. Mr. Ward was educated in Shurtleff College and the University of Wisconsin. He is a veteran of the last war, during which he served with the U. S. Naval Air Corps. More recently he was co-owner of a candy company and directed all sales activities of the firm.

R. T. HAKE

W. L. WARD

Novel Shampoo Display

Roux Distributing Co., New York, recently introduced an innovation in the packaging of its new line of hair color shampoo. Feature of the advertising counter display panel is a realistic reproduction of samples of human hair in the colors secured by the use of the hair tint. Purchasers can match one of the 12 tints with their own hair.

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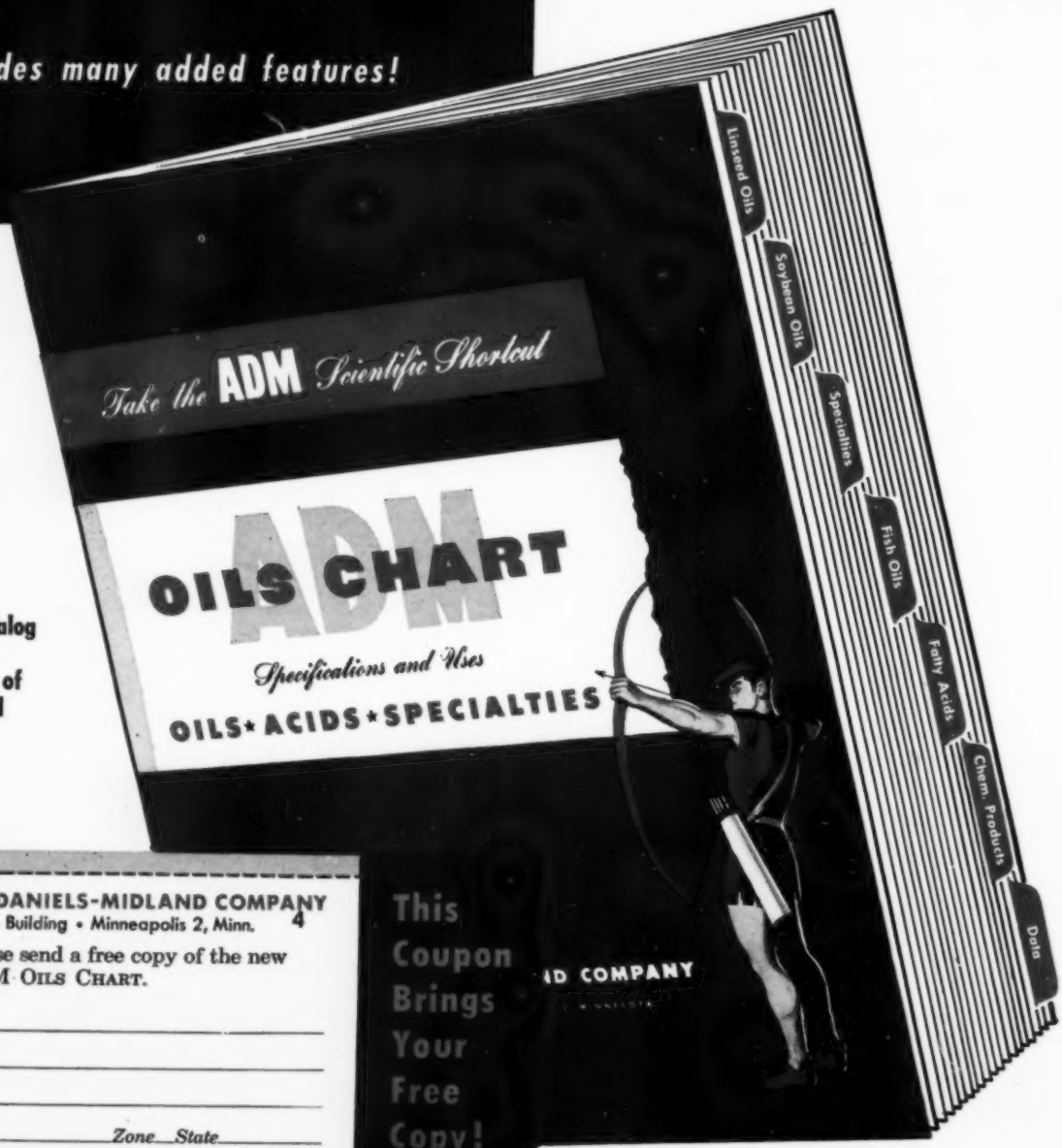

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Wolcott Joins Wyandotte

Wyandotte Chemicals Corp., Wyandotte, Mich., recently announced the appointment of Frank B. Wolcott

FRANK B. WOLCOTT

as general manufacturing manager. He was formerly in charge of manufacturing operations for New Jersey Zinc Co., New York. As general manufacturing manager for Wyandotte, Mr. Wolcott has supervision of the company's chemical, compounding, quarrying, mining and transportation activities, most of which are in the process of expansion. He is a native of Cleveland, and a graduate of Princeton University in geology mining. He joined New Jersey Zinc as an engineer at the company's mines in West Virginia and in 1933 was transferred to Palmertown, Pa., where he was in charge of slab zinc and metal manufacturing, eventually becoming superintendent of the plant in 1948.

New Emery Chi. Office

Discontinuance of the services of their Chicago representative, Clarence Morgan, and the opening of a direct sales offices at 221 N. LaSalle St., Chicago, were announced recently by Emery Industries, Inc., Cincinnati. E. G. Hibarger, formerly Cincinnati district manager, has been appointed Chicago district manager in charge of the new office. D. R. Robertson, currently specialty sales representative in the Chicago area and A. R. McDermott have been appointed to the Chicago district as chemical sales representatives. The district to be served by the new sales office includes northern Illinois, northern Indiana, Wisconsin, Minnesota and northern Iowa.

BIMS Golf Dates

Golf outings scheduled by the BIMS of New York for the coming summer will be held at Ridgewood, N. J., June 19; Winged Foot C. C., Mamaroneck, N. Y., July 24 and Plandome C. C., Plandome, L. I., Aug. 23.

New Polak & Schwarz Plant

Ground was broken for a new flavor plant at Teterboro, N. J., May 9, in a ceremony witnessed by officers and members of Polak & Schwarz, Inc., New York. Present manufacturing facilities at Guttenberg, N. J., will be moved to the new plant as soon as it is completed. Provision has also been made to add a building at a later date for the manufacture of the company's perfumery materials. Future plans also call for the erection of an administration building which will link the two manufacturing plants. Louis Davids, vice-president, addressed the gathering at the dedication, which was followed by a luncheon.

Fraternity Honors Lee

Alan Porter Lee, consulting engineer of Morristown, N. J., was elected recently as an honorary member of Pi

A. P. LEE

Tau Sigma, Pi Pi Chapter, at Brooklyn Polytechnic Institute. Pi Tau Sigma is the honorary mechanical engineering fraternity founded in 1915 at the Universities of Illinois and Wisconsin, jointly. Mr. Lee was initiated at the spring semester initiation and after the initiation and meeting addressed the chapter on "Process Equipment in the Glyceride Industries".

Westvaco Names Williams

The appointment of W. N. Williams as operating vice president of Westvaco Chemical Division of Food Machinery and Chemical Corp., New York, where he is making his headquarters, was announced recently. Mr. Williams has been associated with Westvaco for over 20 years, having been successively manager of the Barium Products, Ltd., plant at Modesto, Calif.; manager of western operations at Newark, Calif., and more recently vice-president in charge of production with headquarters in New York.

Named as his staff assistants are Dr. K. C. Rule and Robert J. DeLargey. Dr. Rule has been assistant production manager in New York, and was formerly staff assistant to the plant manager and head of process control at Westvaco's South Charleston, W. Va., plant. Prior to joining Westvaco, Mr. DeLargey was superintendent of Shell Chemical Company's Pittsburg, Calif., ammonia plant. More recently he was with Grover Regulator Co., Oakland, Calif.

W. N. WILLIAMS

DR. K. C. RULE

R. J. DeLARGEY

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330 West 42nd Street, New York 18, N. Y.

Pennsalt Advances Two

Edward J. Ewell and Wilfred R. Downing have been appointed to the newly created position of product supervisors in the laundry and dry cleaning department of Pennsylvania Salt Manufacturing Co., Philadelphia, it was announced recently. Mr. Ewell, who has been with the company since 1936, has been made supervisor of laundry products. Prior to his appointment, he was a salesman in the Baltimore and Washington territory, a position he held since returning to the company following military service during World War II.

EDWARD J. EWELL

WILFRED R. DOWNING

Mr. Downing, supervisor of dry cleaning products, came with the company in 1946 after serving as a Marine paratrooper. He had operated his own dry cleaning business before the war. He helped pioneer the introduction of "Erusto" dry cleaning products for Pennsalt, and since 1948 has been sales-service representative in the Philadelphia and eastern Pennsylvania.

Glycerine Price Discussed

Ceiling prices on natural crude, and natural refined glycerine sold in bulk lots of 500 pounds or more, as well as refined glycerine when sold by a refiner or converter in tin containers were discussed by the OPS Glycerine Advisory Committee at a meeting in Washington, May 22nd. It was indicated that the regulation would be patterned after the old OPA Maximum Price Regulation 38.

No Controls on Glycerine

The National Production Authority announced recently that unless the United States gets into an all-out war, there will be no allocation controls or "DO" limitation orders for glycerine. This prediction was made at a meeting of the NPA Glycerine Industry Advisory Committee held in Washington, May 22nd. The NPA also reported that although military uses of glycerine have increased some since last year, the increase was not great enough to make a difference in the over-all supply-demand situation. Attending the meeting, which was presided over by George A. Wrisley of the N.P.A.'s Chemical Division, were: J. R. Sandberg, Armour & Co., Chicago; J. A. Sloan, Colgate-Palmolive-Peet Co., Jersey City, N. J.; A. W. Schubert, Emery Industries, Cincinnati; Ray Geibel, Harshaw Chemical Co., Cleveland; C. C. Oliver, Lever Brothers Co., New York; W. W. Bray, Procter & Gamble Co., Cincinnati; J. M. Sheldon, Shell Chemical Co., New York; E. A. Moss, Swift & Co., Chicago; A. E. Tahl, Allen B. Wrisley Co., Chicago.

Want Soap Plant Supt.

Major producer in Chicago area needs plant superintendent having at least ten years experience in the manufacture of all types of soaps and synthetic detergents. Include full details of personal and business background in first reply. A reply in the name of an intermediary would be satisfactory. Or your letter sent to the Editor of SOAP & SANITARY CHEMICALS with instructions will be handled by him personally in complete confidence. Address Editor, Personal, Box 376 c/o SOAP.

Luis de Hoyos Dies

Luis de Hoyos, 59, vice-president and secretary of Synfleur Scientific Laboratories, Inc., Monticello, N. Y., of which he was Mayor from 1935 until 1947, died at his home there, May 8. He was born in Spain and came to the U. S. as a boy. In 1938 he represented the State Department at Santiago, Chile, as technical adviser to the Inter-American Congress of Municipalities. He is survived by his wife, Mrs. Marie de Hoyos; a son Luis, Jr.; a daughter, Mrs. Rose Marie Dormer; three married sisters and a brother.

P&G Plant's Safety Record

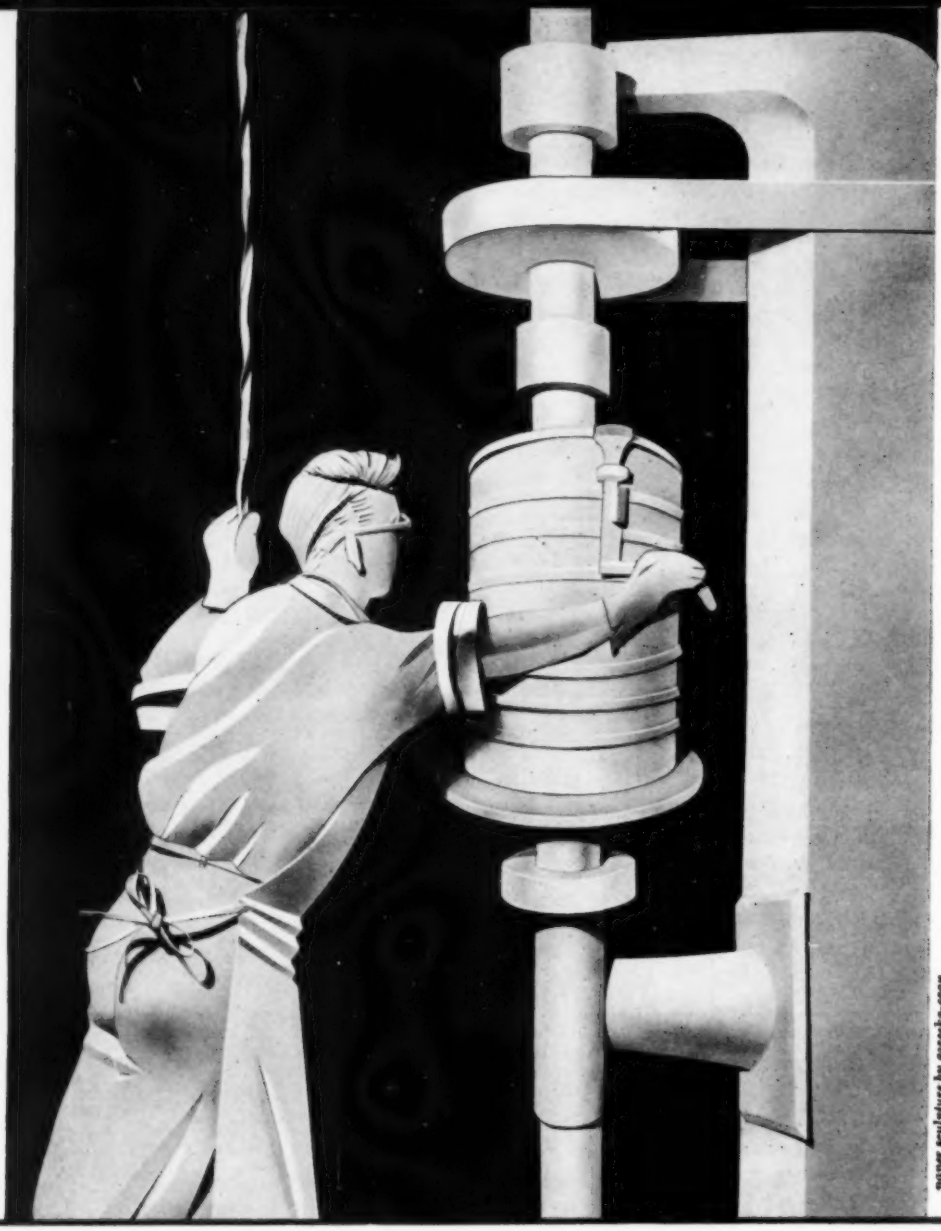
Employees of the Procter & Gamble Company's Dallas factory recently received a pennant as a special award for having worked more than one million man-hours without an accident. Three other P&G plants have similar records, according to P. Fulkerson, factory superintendent for Dallas. K. L. Clinton is safety engineer for the Dallas plant.

Special Order Asked OPS

Heavy industrial chemical producers recently asked the Office of Price Stabilization to formulate a program for chemical pricing or let them continue under the General Ceiling Price Regulation. Stating that it would be impossible for the industry to file a listing of prices by May 28, as required by the new Manufacturers General Pricing Regulations (CPR-22), spokesmen for the group requested a tailored chemical pricing order.

Spokesmen stated that operations under CPR-22 would result in industry-wide inequities because many of the raw materials used for heavy chemicals are not controlled and others are imported. In addition, difficult maintenance and labor problems confronted by the producers are not covered by the regulation.

Although OPS did not give a definite answer to the request for a tailored program, it called for some specific industry recommendations on such a move. The industry group is expected to meet again as soon as such a program has been drawn up.



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Oil Chemists Elect Bailey

Officers of the American Oil Chemists' Society for the 1951-52 term were announced at the annual

ALTON E. BAILEY

meeting of the group held May 1-3 at the Roosevelt Hotel, New Orleans. A. E. Bailey, Humko Co., Memphis, Tenn., is the new president, while E. M. James, Lever Bros., New York City, was elected vice-president.

Other officers are: secretary, T. H. Hopper, Southern Regional Research Lab., New Orleans; treasurer, J. J. Vollertsen, Armour & Co., Chicago; members-at-large . . . A. R. Baldwin, Corn Products Co., Argo, Ill., J. C. Konen, Archer Daniels-Midland Co., Minneapolis, Minn., and C. E. Morris, Armour & Co., Chicago.

Members of the Governing Board will include four past presidents: J. R. Mays, Jr., Barrow Agee Laboratories, Inc., Memphis, Tenn., (1950); V. C. Mehlenbacher, Swift & Co., Chicago, (1949); C. P. Long, Procter & Gamble Co., Cincinnati, O., (1948); and R. T. Milner, Northern Regional Research Laboratory, Peoria, Ill., (1947).

Retiring from the board are H. L. Roschen, secretary; H. C. Bennett and W. H. Goss, members-at-large; and S. O. Sorensen, past president (1946).

Soap Sales Increase

Domestic sales of soaps and synthetic detergents showed an increase in the first quarter of 1951, as compared with the previous quarter and the first three months of 1950, according to figures released recently by the Association of American Soap & Glycerine Producers. Soap sales for the first three months of 1951 were up 11.8 per cent over the previous quarter and 18.5 per cent better than the first quarter of 1950. Sales of other than liquid soaps in the first three months of this year were 694,962,000 pounds, having a sales value of $152,615,000. Liquid soap sales for the first quarter, amounted to 1,522,000 gallons, worth $1,938,000. First quarter sales of synthetic detergents were put at 333,601,000 pounds, valued at $81,076,000. In the first quarter of 1950, sales of synthetic detergents were put at 265,430,000 pounds, worth $51,166,000. Three fewer companies reported synthetic detergent sales in the first 1950 quarter, however. In the fourth quarter of 1950, 34 firms reported sales of synthetic detergents totaling 275,489,000 pounds, worth $61,023,000.

Sales of other than liquid soaps in the first quarter of 1950 amounted to 586,734,000 pounds, and in the fourth quarter of that year the figure was 620,133,000 pounds.

Solventol Sales Meeting

New cleaning products were presented for the first time at the second annual sales conference of Solventol Chemical Products, Inc., Detroit, held at the Hotel Sheraton, Detroit. At the meeting, the opening of a new machining and spray washing equipment manufacturing plant, located at Victor and Brush Streets, Highland Park, Mich., was announced.

Lipscomb Heads Sales Club

Charles T. Lipscomb, president of the Pepsodent Division of Lever Brothers Co., New York, was recently

CHARLES T. LIPSCOMB

elected president for the 1951-52 term of the Sales Executives Club of New York. Prior to becoming president of Pepsodent, he was vice-president in charge of sales of the industrial chemicals division of McKesson & Robbins.

CSA Golf Outing June 8-9

A two-day golf outing of the Chemical Salesmen's Association of the American Chemical Industry is to be held Friday and Saturday, June 8 and 9, at Shawnee-on-Delaware, Pa.

Edward Jobbins Is Dead

Edward Jobbins, a director of W. C. Hardesty Co., New York, died recently in Washington, D. C. He was serving as a consultant for the Office of Price Stabilization at the time of his death. He was 64.

"Choo Choo" soap box of Roycemore Toiletries, Inc., Chicago, received honorable mention in soap in the 1951 set-up paper box competition sponsored by the National Paper Box Manufacturers Association. Grand exhibition of entries and prize winners was held at the association's convention in Haddon Hall, Atlantic City, June 3-6. Congress Paper Box Co. Chicago, supplied the box for Roycemore's entry. It contains four castile soap cakes in the form of trains.

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NEW TRADE MARKS

THE following trade-marks were published in the May issues of the *Official Gazette* of the United States Patent Office in compliance with Section 6 of the Act of February 20, 1905, as amended March 2, 1907. Notice of opposition must be filed within thirty days of publication. As provided by Section 14, a fee of ten dollars must accompany each notice of opposition.

Car-etta—This for non-toxic body aseptic. Filed May 7, 1947 by Tyrrell H. Duncombe, St. Petersburg, Fla. Claims use since Mar. 21, 1947.

Lanoplus—This for toilet and laundry soap. Filed Nov. 19, 1946 by Lanolin Plus Cosmetics, Inc., Chicago. Claims use since Aug. 12, 1942.

The following trade marks are published in compliance with section 13 (a) of the Trade Mark Act of 1946. Notice of opposition must be filed within 30 days of publication and a fee of $25 must accompany each notice of opposition.

YPZ—This for cleaning compound for general household use. Filed Dec. 7, 1949 by Harkness & Co., Wellsville, N. Y. Claims use since Nov. 19, 1949.

Jewel—This for shampoo. Filed Apr. 24, 1948 by Jewel Tea Co., Barrington, Ill. Claims use since Dec., 1923.

De-Sol — This for chemical cleansing preparation. Filed Nov. 10, 1948 by Cloroben Corp., Jersey City, N. J. Claims use since Sept. 22, 1948.

Fleedee—This for veterinary pharmaceutical preparation having parasiticidal action. Filed Jan. 11, 1950 by S. E. Massengill Co., Bristol, Tenn. Claims use since Dec. 2, 1948.

Minute—This for soap mitts. Filed Dec. 14, 1949 by Minute Mop Co., Chicago. Claims use since Oct. 21, 1937.

Big Stinky—This for insect traps. Filed Oct. 26, 1949 by William E. Brown Co., Pewaukee, Wis. Claims use since Sept. 18, 1949.

Jewel—This for dental cream. Filed Apr. 24, 1948 by Jewel Tea Co., Barrington, Ill. Claims use since Dec., 1923.

Phal—This for tooth powder. Filed Dec. 17, 1948 by S. P. Phalmo Co., Chicago. Claims use since Sept. 27, 1948.

Ann Barton—This for shampoo. Filed Feb. 10, 1949 by Sears, Roebuck & Co., Chicago. Claims use since Aug., 1935.

Robert Curley—This for shampoo. Filed Aug. 12, 1948 by Locks Laboratories, New York. Claims use since Dec. 15, 1947.

Twenty—This for bactericide for dairy sanitation. Filed Sept. 29, 1948 by Pfanstiehl Detergent Chemicals, Inc., Chicago. Claims use since Mar. 25, 1948.

Stanhome—This for chemical disinfectant. Filed May 19, 1950 by Stanley Home Products, Inc., Westfield, Mass. Claims use since Mar 22, 1950.

Franklin's—This for wax emulsion for the preservation and improvement in appearance of fruits, vegetables, etc. Filed July 11, 1950 by Franklin Research Co., Philadelphia. Claims use since 1944.

Health Aire — This for dispenser or sprayer for germicides. Filed Aug. 31, 1949 by Jon-Howard, Inc., Minneapolis. Claims use since May 5, 1949.

Sparkel-Sparkel—This for eye glass and camera lens cleaner. Filed Oct. 11, 1948 by Brom Drug Co., Benson, Minn. Claims use since Feb. 15, 1947.

Germo—This for liquid soaps. Filed Feb. 7, 1949 by Germo Manufacturing Co., St. Louis. Claims use since Nov., 1902.

Rose-H — This for upholstery and rug cleaner. Filed July 28, 1949 by Rosaitch Co., Chicago. Claims use since Jan. 15, 1949.

Carbo-Cide—This for powder slag and soot solvent for boilers. Filed Feb. 17, 1950 by Consolidated Engineers Co., Chicago. Claims use since Mar. 15, 1949.

pHisohex — This for antibacterial detergent for use on the skin. Filed Apr. 24, 1950 by Winthrop-Stearns, Inc., New York. Claims use since Feb. 17, 1950.

Tresemme — This for shampoo. Filed June 12, 1950 by Godefroy Manufacturing Co., St. Louis. Claims use since Nov. 28, 1947.

Sudsomatic — This for detergents for domestic and commercial laundering. Filed July 1, 1950 by Nelson Chemicals Corp., Detroit. Claims use since Aug. 30, 1948.

TV — This for floor polishing wax. Filed Apr. 22, 1950 by TV Products Co., New York. Claims use since Mar. 15, 1950.

Sequet—This for water softening and detergent composition for use as supplement to bottle washing agents. Filed June 10, 1950 by Diamond Alkali Co., Cleveland. Claims use since Mar. 1, 1950.

Para. Pure—This for moth preventive and insecticide. Filed Aug. 4, 1947 by Reefer-Galler, Inc., New York. Claims use since Feb. 15, 1935.

Octalene—This for insecticides. Filed Aug. 19, 1949 by Julius Hyman & Co., Denver. Claims use since July 28, 1949.

Three-N-One—This for insecticidal dust. Filed Aug. 26, 1949 by Food Machinery and Chemical Corp., San Jose, Calif. Claims use since Mar. 6, 1948.

Vaposector — This for insecticides. Filed July 13, 1950 by West Disinfecting Co., Long Island City, N. Y. Claims use since June, 1933.

Stay Out — This for camphor crystals for use as rodent repellent, Filed July 18, 1950 by A. & J. Manufacturing Co., Chicago. Claims use since May 1, 1950.

Zeet — This for athlete's foot preparation. Filed Nov. 4, 1948 by McPhail Laboratories, Miami, Fla. Claims use since Aug. 20, 1944.

Glycomaster — This for electrical vaporizer for air purification. Filed Oct. 6, 1949 by Columbia Chemical Co., Chicago. Claims use since May, 1948.

Miradent — This for dentifrice. Filed Aug. 27, 1949 by Lo-Calory Food Corp., New York. Claims use since July 26, 1949.

Popular Girl — This for shampoos. Filed Aug. 23, 1949 by Lloyd Sargent, New York. Claims use since Dec., 1937.

Ozonite — This for sudsing cleaner. Filed July 5, 1947 by Procter & Gamble Co., Cincinnati. Claims use since Mar. 15, 1915.

Sta-Lube—This for hand cleaner. Filed Aug. 22, 1949 by Laird, Inc., Los Angeles. Claims use since Aug. 22, 1938.

Colortone—This for soap. Filed Dec. 15, 1949 by M. Werk Co., Cincinnati. Claims use since Aug. 19, 1949.

Nabob — This for all-purpose liquid cleanser. Filed Dec. 19, 1949 by Nabob Co., Lakegrove, Oreg. Claims use since Nov. 10, 1949.

Ushers — This for mechanic's soap. Filed Dec. 27, 1949 by Cedric M. Usher, Chicago. Claims use since Nov. 30, 1945.

Spontane — This for steam cleaning compounds. Filed by Spontane Manufacturing Co., Atlanta, July 20, 1950. Claims use since Oct. 1, 1949.

Milktime — This for cleansing and sanitizing composition. Filed Jan. 21, 1950 by Agicide, Inc., Racine, Wis. Claims use since Jan. 12, 1950.

Mile A Minute — This for all purpose household cleaner in liquid form. Filed Jan. 28, 1950 by House of Houston, Inc., Coral Gables, Fla. Claims use since Jan. 15, 1949.

Skeeter Schoo—This for liquid

(*Turn to Page* 159)

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BIDS AND AWARDS

AQM Soap Awards

Soap awards announced recently by the Army Quartermaster Corps, New York, in connection with recent openings for miscellaneous supplies went to Gillam Soap Works, Fort Worth, Tex., on laundry soap; to Continental Soap Corp., Chicago, on laundry soap powder; to Pioneer Soap Co., San Francisco, on laundry soap and to Stahl Soap Corp., Brooklyn on laundry soap. No prices nor amounts were given.

Cleaning Compound Bids

Bids on 37,350 pounds of vapor cleaning compound were received from the following in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C.: Quick Charge, Inc., Oklahoma City, nine cents a pound; Kelite Products, Inc., Los Angeles, $7.87 cwt; Clayton Manufacturing Co., Cincinnati, 8.2 cents, fob Elmonte, Calif., 8.1 cents per pound; Harley Soap Co., Philadelphia, 12.25 cents; Turco Products Co., Los Angeles, 15 cents; Etna Auto Parts Co., Cincinnati, 16 cents.

Surgical Soap Bids

Among the bidders on an unspecified quantity of liquid surgical soap in a recent opening for miscellaneous supplies by the Armed Services Medical Procurement Agency, Brooklyn, were the following: American Pharmaceutical Co., item 2, $2.65 San Francisco, $2.59 Edgewater and $2.62 Atlanta; Crowley Pharmaceutical Co., item 2, $2.28, fob Worcester, Mass.; Crystal Soap & Chemical Co., item 1, 57 cents Edgewater, 60 cents Oakland; Davies Young Soap Co., item 1, 35.5 cents Edgewater, 41 cents Oakland; Fine Organics, Inc., 35 cents Edgewater, 38 cents Oakland; Harley Soap Co., 38.75 cents Edgewater, 42 cents Oakland; Jamieson Pharmacal Co., item 2, $2.75, all or none; Lightfoot Schultz Co., item 1, 28.8 cents; Eli Lilly & Co., item 2, $2.29; S. E. Massengill Co., item 2, $2.58; Merit Laboratory Co., item 1, 32 cents Edgewater, 38 cents Oakland; Park Drug Co., item 2, $2.33 San Francisco, $2.27 Edgewater and $2.30 Atlanta; Premo Pharmaceutical Laboratories, item 2, $3.21 San Francisco. $3.19 Edgewater, $3.20 Atlanta; Puritan Co., item 1, 29.3 cents Edgewater, 36.9 cents Oakland; Raymond Laboratories, item 1, 26 cents; Lannett Co., item 1, 38 cents, item 2, $2.58; Retort Pharmaceutical Co., item 1, 59 cents; Rowell Laboratories, item 2, $4.20; Strong Cobb & Co., item 2, $2.43; Tablerock Laboratories, item 2, $2.209; Vitarine Co., item 2, $2.2297 San Francisco, $2.277 Edgewater and $2.287 Atlanta, all or none.

POD Soap Award

Newell Gutradt Co., San Francisco, received the award on 15,000 cakes of grit soap with a bid of 5.12 cents in a recent opening for miscellaneous supplies by the Post Office Department, Washington, D. C.

Naphthalene Flakes Award

The following awards on naphthalene flakes were announced in a recent opening for miscellaneous supplies by the Marine Corps, Washington, D. C.: Naphthalene Products Co., Tarrant, Ala., 17.49 cents a pound 55,000 pounds; Koppers Co., Tar Products Division, Washington, D. C., 16.87 cents a pound, 150,000 pounds; Octagon Process, Staten Island, N. Y., 21.9 cents a pound; Reliable Chemical Co., Passaic, N. J., 21.5 cents a pound; Reilly Tar & Chemical Corp., Tuckahoe, N. Y., 16.19 cents a pound 150,000 pounds.

Misc. F.S.S. Bids

Low bids on miscellaneous supplies in recent openings of the Federal Supply Service, Washington, D. C., were submitted by the following: 70,000 pounds of laundry soap, General Biochemicals, Chagrin Falls, O., 15.3 cents per pound on 36,000 pounds only; Procter & Gamble Distributing Co., Cincinnati, second low bidder on the whole quantity bid 15.5 cents a pound powdered Concord with liners or 15.39 cents without; 9,000 pounds of floor wax, Buckingham Wax Co., Long Island City, N. Y., 13.4 cents; 144,000 pounds of laundry soap, Cudahy Packing Co., Omaha, $8.91 per case for 2,400 cases, 60 one-pound bars to a case.

Wax Awards to Kem, Trio

Kem Products Corp., Brooklyn, received the award on item 52-W-400 with a bid of 70 cents a gallon, and Trio Chemical Works, Brooklyn, was the low bidder on item 52-W-455 with a bid of 15.8 cents a pound in a recent opening for floor wax by the Federal Supply Service, Washington, D. C.

Sweeping Compound Award

The award on an unspecified quantity of sweeping compound in a recent opening for miscellaneous supplies by the Federal Supply Service, Washington, D. C., went to Sanitary Soap Co., Paterson, N. J., with a bid of $2.12 cwt.

E&P Award to Brilco

Brilco Laboratories, Brooklyn, received the award on 300 gallons of hand cleaner with a bid of $2.05 a gallon in a recent opening for miscellaneous supplies by the Bureau of Engraving and Printing, Washington.

Heads Harvard Clubs

Neil H. McElroy, president of Procter & Gamble Co., Cincinnati, was elected president of the Associated Harvard Clubs recently. He is also president of the Association of American Soap & Glycerine Producers, Inc.

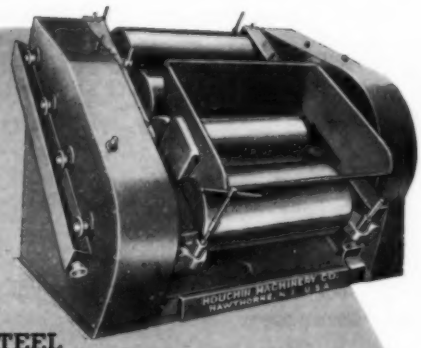
Marine Cleaner Bids

The following bids were received on 3,000 pounds of cleaner and conditioner in a recent opening for miscellaneous supplies by the Marine Corps., Philadelphia: Octagon Process, Staten Island, N. Y., item 26, 21.8 cents; Pelron Corp., Lyons, Ill., item 26, 29 cents; Harley Soap Co., Philadelphia, item 26, 11.25 cents S. M., 12.25 cents S. T. M.; Turco Products Co., Philadelphia, item 26, $25.20 cwt plus a $10 drum charge.

6 MACHINES IMPORTANT IN—

SOAP MAKING

TILTING AMALGAMATOR
Other types available.



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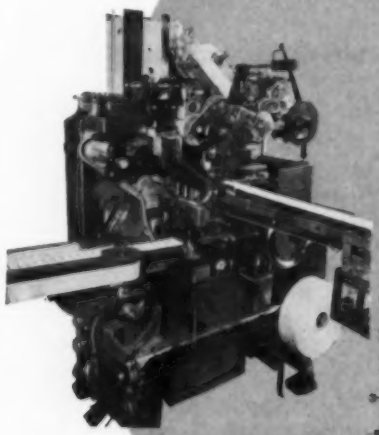
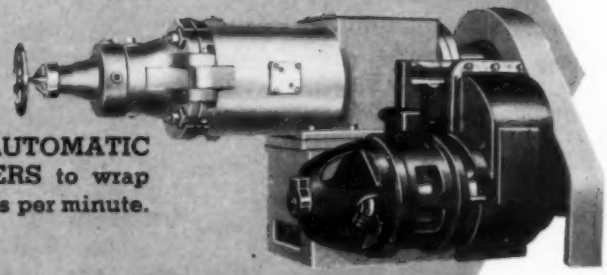
With 18″ x 40″ water cooled rolls.

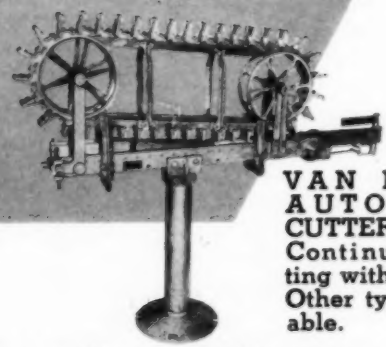


VAN BUREN AUTOMATIC SOAP WRAPPERS to wrap 200 to 300 cakes per minute.



GIANT PLODDER—Capacity 4000 to 6000 pounds per hour.

SAFETY AIR PRESS
Easier to operate. Produces consistently uniform cakes.



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Continuous cutting without scrap. Other types available.

Houchin soap making machines include every machine required for modern soap manufacture. Available individually or in complete production ranges.

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PRODUCTION SECTION

Detergents in Sewage

Problems encountered in growing amounts of synthetic detergents going into sewage were reported on at recent American Chemical Society meeting. Ways to overcome adverse effects studied.

REPORTS dealing with detergent effects in water treatment, effects on sewage, and structural characteristics of surfactants were among the papers presented before sessions of the Division of Water, Sewage, and Sanitation Chemistry at the 119th national meeting (Part II) of the American Chemical Society, held recently, in Cleveland. The report by William Stericker and A. B. Middleton, Philadelphia Quartz Co., Philadelphia, "Detergent Properties and Their Effects in Water Treatment," compared detergency and water purification, pointing out that the factors desirable in one are usually undesirable in the other. Whereas emulsification is one of the detergent factors, it creates a problem in water disposal, since emulsification carried through the treatment plant contaminates the effluent, and when the emulsion breaks, there is the problem of separating the fat or oil. Still another case cited is the prevention of redeposition, desirable in detergents but usually undesirable in water treatment. Foam, also, is undesirable in water treatment plants and systems.

The "Effect of Detergents on Sewage Plant Operation" was considered further in a paper by R. W. Simpson, Gilbert Associates, Inc., Reading, Pa. He pointed out that secondary treatment processes in sewage treatment were affected even more adversely by synthetic detergents than some of the other phases of sewage processing. Foaming on top of the aeration units results in additional operating problems to reduce or remove the foam, and remove the deposited grease from plant structures.

According to Willem Rudolfs and Raymond M. Manganelli, New Jersey Agricultural Experiment Station, New Brunswick, N. J., authors of the report on "Sewage Treatment Problems in Relation to Detergents," the more widely used detergents (anionic and nonionic types) in concentrations expected to be found in sewage, do not interfere with sewage oxidation. The cationic type, used for specialized purposes, retards oxidation. Sedimentation is impaired, shifting a greater load to the secondary treatment units. It was pointed out also that anionic and cationic detergents have no beneficial effect on the bactericidal efficiency of chlorine in sewage, but that all three types of detergents effect an improvement in the filtration of fresh solids when present in concentrations of 100 p.p.m.

Clair N. Sawyer, Massachusetts Institute of Technology, Cambridge, discussed the problem posed by complex phosphates in sewage disposal, as introduced by the expanding use of synthetic detergents. His report, "Syndets in Relation to Biological Problems in Lakes," pointed out that current consumption of phosphates in the soap, syndet, and water softening fields indicates that the phosphorus content of sanitary sewages in this country is now or is going to be about double what it was ten years ago; consequently, smaller amounts of sewage will exceed critical nutrient levels. Sawyer pointed out that chemical coagulation studies with ferric chloride have shown that all forms of the commonly used complex phosphates are removed effectively.

A report on the "Effect of Detergents on Slime Growth in Sewers" by Willem Rudolfs and E. S. Crosby, New Jersey Agricultural Experiment Station, New Brunswick, N. J., indicated that all concentrations of "Ceepryn" chloride, the cationic detergent, retarded slime growth materially. The non-ionic detergent, "Tween 80," appeared to stimulate growth in concentrations up to 50 p.p.m. Concentrations of 10 to 50 p.p.m. of "Nacconol NR," the anionic detergent stimulated growth over the control level; the amount of stimulation decreasing with increased concentrations, whereas 100 p.p.m. retarded growth.

A paper on the "Mechanical Staining of Silverware under Mechanical Dishwashing Conditions" was given by Leslie R. Bacon and Eugene G. Nutting, Jr., Wyandotte Chemicals Corp., Wyandotte, Mich. In it the problem of electroplating copper (derived from the action of polyphosphate-type detergents solution on cuprous metals of dishwashing machine parts or base metals of silverware exposed through imperfect silverplate) on silver was considered. The difficulty may be eliminated by avoiding cuprous metals or strongly electronegative metals such as zinc or aluminum in the dishwashing system. High-

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Makes white fabrics whiter and many colored fabrics brighter!

ANTARA BRIGHTENER A

—a colorless, fluorescent dye for use in soaps and detergents

The addition of ANTARA BRIGHTENER A—to a soap or detergent compound—makes white fabrics *whiter*, many colored fabrics *brighter*. The reason is both scientifically sound and relatively simple.

As with any dyestuff of good quality, this new, *colorless* dye readily attaches to fabrics. However, it absorbs only the invisible ultra-violet light rays. These rays are then transformed into a visible blue fluorescence. Result—for any washed fabric: a *more luminous white*—or a brightened shade of the original color. This new fluorescence is the same as that which occurs on your television screen—where fluorescent action transforms the invisible waves into *visible light*.

Brightener A may be added to any soap or detergent product. It shows no tendency toward "build-up" under repeated washings, maintains uniformity of cast regardless of concentration, obviates the necessity for bluing.

For technical data sheets—covering usage in soap and synthetic detergents and also in commercial laundry practice—kindly address Department 65

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IN CANADA: Chemical Developments of Canada Limited, Leaside, Toronto 17

ly silicated detergents minimize the problem.

In his review of the structural characteristics and behavior of modern surfactants, Anthony M. Schwartz, Harris Research Laboratories, Washington, D. C., pointed out that the physical and colloid chemical effects of surfactants are often pronounced at concentrations as low as 50 p.p.m., and that they may be apparent at even lower concentrations. These effects include foaming, emulsification, peptizing, suspending, and interference with microbiological processes.

Other papers dealing with detergents included: "Correction of Tastes and Odors Resulting from Detergent Tastes" by John W. Hassler, J. G. Filicky, and C. W. Aman, West Virginia Pulp & Paper Co., Tyrone, Pa.; "United Kingdom Experience of Synthetic Detergents in Sewage Processing" by M. Elton and A. L. Waddams, Shell Chemicals Ltd., London, England; and "Review of the Literature on Detergents in Sewage" by R. Simpson, Gilbert Assoc., Reading, Pa.

Degreasing Action of Shampoos

THE degreasing action of clear, liquid shampoos based on synthetic detergents is one of the main causes of the lack of greater popularity of this type of product. The opaque, cream shampoo does not have this disadvantage, since lanolin and other emollient "hair conditioners" are incorporated more easily in a creamy product than a powder or clear liquid. Formulation difficulties in the manufacture of cream shampoos are primarily concerned with (1) the selection and addition of suitable thickening and opacifying agents, and (2) the addition of a suitable emollient with adequate degreasing effect.

One of the best thickening agents is sodium stearate, or hard soap. However, this compound should be used in limited amounts so that it does not affect the foam-forming properties adversely, or produce calcium soaps. Amounts of five to 10 per cent are suggested with the recommendation that less than eight per cent be used. Other thickeners include: ammonium chloride (two-four per cent), polyglycol stearate (three-six per cent), diethylene glycol stearate, glyceryl mono- and di-stearates; traces of free stearic acid; and a number of gums, and gum substitutes.

According to one authority, the German writer Kuchinka, lanolin additions as emollients are somewhat ineffective, because, in his view, they do not interfere with the degreasing action of synthetic detergents, nor do they replace the natural sebum extracted by the surfactants from the scalp. He advises the use of methyl celluloses as skin protective agents in compounded syndets for domestic washing purposes. Although his experiments indicate a lesser skin irritation with the methyl celluloses, the fact is that these derivatives are not equally satisfactory when applied to the hair and scalp, owing to their tendency to remain behind on the hair, as residual deposits.

Generally speaking, no ideal emollient, superfatting agent or conditioner has been found for inclusion in cream shampoos. However, the modern products are considerably improved in quality since they were first introduced on the market. Conditioners in current use include lanolin (.3 to one per cent, anhydrous basis), polyglycols and polyglycol esters, fatty alcohols, and some of the colloidal additives and gelling agents. Valuable additives might be traces of "Vitamin F" (unsaturated linseed fatty acids), "Vitamin E" (cholesterols), urea, certain of the higher fatty acids, and squalene (present in yeast fat, wheat germ, fish liver, and olive oils). If economically feasible, the following formula is suggested for a paste type shampoo:

	grams
synthetic detergent paste	48.0
sodium stearate	8.0
lanolin, anhydrous	0.5
"Vitamin F" concentrate (Berk)	1.0
wheat germ oil	0.5
urea	1.0
perfume and preservative	q.s.
water	41.0

Soap, Perfumery & Cosmetics 24, No. 4, 350-352 (1951).

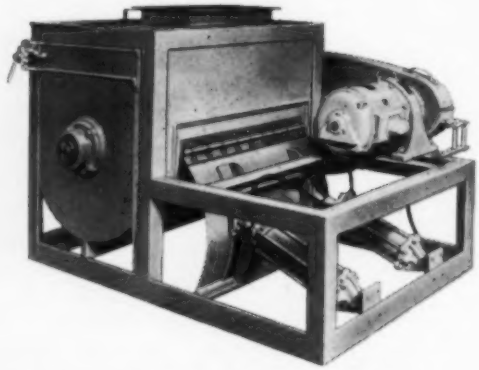
Polyglycol Stearates

Reaction of ethylene oxide and stearic acid may be used to prepare polyglycol stearates (also referred to as hydroxy polyoxyethylene stearates or polymerized ethylene glycol monostearates), or these compounds may be prepared also by the esterification of stearic acid with preformed polyethylene glycols. Polyglycol stearates with different properties may be formed by varying the number of ethylene oxide molecules in the polymer chain . . . as the number increases, dispersibility or solubility in water and aqueous solutions of the stearates also increases. At elevated temperatures, some grades of polyglycol stearates separate from water, however, they will fall back into solution as the temperature drops, if the mixture is agitated somewhat.

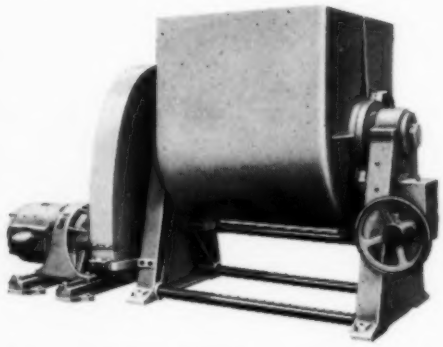
Polyglycol stearates are nontoxic, hydrolyze by pancreatic lipase *in vitro*, are stable to heat and ageing, and impart no odor or flavor. They are used in manufacturing hand cleaners, and may have value in making synthetic detergent cakes. The polyglycol stearates are useful also as penetrating detergents and foaming agents, these properties making them useful textile auxiliaries. A valuable property of this group of compounds is their adaptability as wetting agents in both oily and aqueous media. *Chem. Trade J.* 128, No. 3333, 924-925 (1951).

Glycerine Purification

Synthetic resin gel grains of the kind used in ion exchange processes are used as the absorbent of organic impurities found in glycerine. The material is passed through the synthetic resin layer (which has a thickness of at most 100 cm) at a speed less than 250 cc per hour and preferably less than 100 cc per sq.cm. of cross section. If the material being purified has a specific gravity greater than that of the liquid in which the resin is immersed, the flow of liquid being purified should be upward, and vice versa. Brit. Pat. 610,336, through *Chem. Trade J.* 12, No. 3332, 880 (1951).



• Lehmann 400 lb. Bottom Dump Amalgamator Model 400-B. Furnished in plain or stainless steel.



• Lehmann 260-400 lb. Tilting Type Amalgamators. Furnished in plain or stainless steel.

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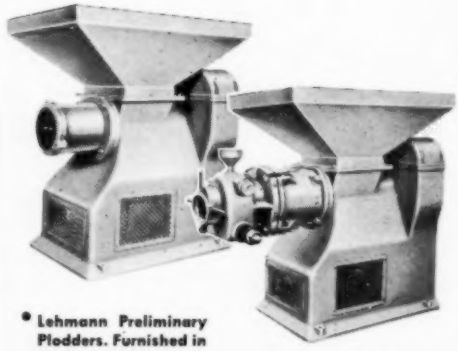
DURING this grave international crisis, every manufacturer should make all possible effort to strengthen the weak spots that exist in his production facilities. This may involve the replacement, reconditioning or modernization of important units of manufacturing equipment.

Improvement in mechanical efficiency usually saves manpower. And manpower is the crux of the Nation's defense problem. Armed forces and defense plants will take millions of men from civilian industry. Those remaining must be employed with utmost economy and common sense.

Look over your soap finishing machines now, with a critical eye. Are there any wasteful, high-cost units in your plant that should be replaced or reconditioned? If so, get in touch with us.

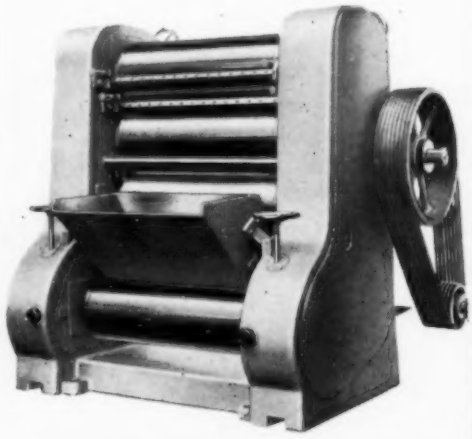
An industry operating at top efficiency is Democracy's most powerful weapon!

Send for descriptive bulletin of any machine shown here.



• Lehmann Preliminary Plodders. Furnished in plain or stainless steel. Worm sizes 8" to 14".

• Lehmann Finishing Plodders. Furnished in plain or stainless steel. Worm sizes 8" to 14".



• Lehmann 912-SA Five Roll Finishing Mill—Flake or toilet soap. Full line available.

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for soaps, cleaning compounds, disinfectants

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3 REASONS WHY

PROCTOR DRYING EQUIPMENT

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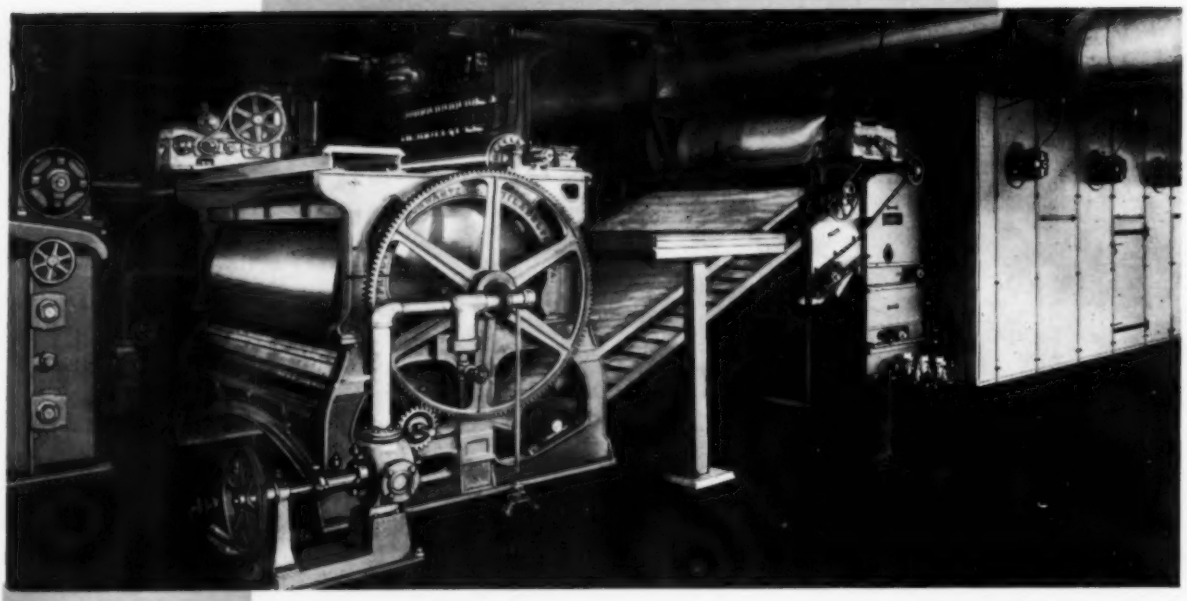

PRODUCT UNIFORMITY

Both the chilling machine and the dryer that go to make up the Proctor automatic flake soap system are engineered to assure uniformity in the finished soap. The chilling machine is precision engineered to produce ribbons that do not vary in thickness, for this is the first step toward uniform drying. Proper drying is brought about by the combination of uniform circulation of heated air and the correct drying time at the temperature to suit the character of the soap being dried.

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The Proctor automatic flake soap system has proven to be a highly flexible piece of equipment—capable of processing soap for final use as toilet or laundry bar soap, soap flakes, or powdered soap—drying many different soap formulae over a wide range of moisture contents.

LONG TROUBLE-FREE OPERATION

The numerous installations of this equipment are noted for long life and trouble-free operation. The system is designed with the precision of a fine machine tool and the ruggedness of the George Washington bridge, which results in uninterrupted service and minimum "down" time once it goes into operation.

For complete information on the Proctor Automatic Flake Soap System—write for Bulletin 304.

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there's more power for whitening in calcofluor whitening agents*

All types of commercial and household soaps and detergents can be given superior whitening power through the use of Calcofluor whitening agents.

Consider the important characteristics imparted to these new products by Calco research.

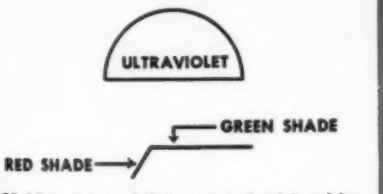
... Ultraviolet light absorption (without absorbing any appreciable amount of visual light).

... Good leveling characteristics (giving uniform distribution).

... Types suitable for treating effectively any type of fabric.

... Excellent fastness to hypochlorite.

A copy of Calco Technical Bulletin No. 811, "Optical Bleaches in Household Soaps and Detergents" containing much helpful data will be mailed to you upon request.



Hold a cotton fabric treated with whitening agent under an ultraviolet lamp in a dark room so that part of the cloth is illuminated directly and part obliquely. The direct part will be greener in hue. This phenomenon was first observed by Bezold and Brücke in 1873, and is now commercially important in the evaluation of brightness. Consult us about the significance of this test and any other questions as to the evaluation of whitening agents.

AMERICAN Cyanamid COMPANY

CALCO CHEMICAL DIVISION
PIGMENT DEPARTMENT
BOUND BROOK, NEW JERSEY

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Background for better detergents

More than a billion pounds of household and industrial cleaning compounds have been produced with synthetic detergent materials made by Oronite.

This broad acceptance is proof of the high regard which leading compounders, processors and end-users hold for Oronite products.

Large-scale production facilities and experience provide Oronite the background for better detergents and make Oronite a most important source of supply.

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THE NAME TO WATCH IN CHEMICALS

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Some of the following are currently in short supply.

Detergent Alkane
Detergent Slurry
Detergent D-40
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Wetting Agents
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Cresylic Acids
Gas Odorants
Polybutenes
Sodium Sulfonates
Purified Sulfonate
Naphthenic Acids
Phthalic Anhydride
Ortho, Para Xylenes
Xylol
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THESE EXTREMELY VERSATILE SYNTHETIC DETERGENTS FIND A WIDE VARIETY OF USES THROUGHOUT INDUSTRY

1. FOOD AND VEGETABLE PROCESSING
A tremendous aid in washing, peeling and processing fruits and vegetables before canning or freezing. Improves their marketability and aids in the removal of dirt, insecticide and fertilizer residue.

2. UPHOLSTERING AND RUG CLEANING
These detergent products find widespread use in plant or "on-location" cleaning of rugs, carpets and upholstering. Excellent foaming qualities, easy rinsing and high efficiency in cleaning greasy type soil make them ideal for this purpose. Use them straight or in special compounds depending upon type of application.

3. CLEANING AND WASHING COMPOUNDS
Oronite supplies tremendous quantities of synthetic detergent materials to processors and compounders of packaged cleaners for all household and industrial uses.

4. TRANSPORTATION EQUIPMENT WASHING
Because of its fast action, quick rinsability and high detergency, Oronite D-40, either alone or in compounds, cuts cleaning and maintenance costs on trucks, trains, busses, passenger cars and other types of rolling stock.

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30 ROCKEFELLER PLAZA, NEW YORK 20, N. Y. — 600 S. MICHIGAN AVENUE, CHICAGO 5, ILL.
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Industrial Cleaning Agents

INDUSTRIAL cleaning agents are often simple mixtures of alkaline materials such as silicates, phosphates, carbonates, etc. For many purposes, these products may be made more strongly alkaline by combining with powdered or flaked caustic soda. Combination with surface active agents or detergents is often desirable, while some types of cleaners favor compounding with organic solvents.

Alkaline raw materials serve two purposes: that of saponifying the unsaponifiables and lowering the surface tension, thus decreasing the angle of contact between the solution and the surface being cleaned. In the formulation of metal cleaners, the alkaline materials have a scale removing and anticorrosive effect; in the food and dairy industries they dissolve proteinous matter and increase the bactericidal effect.

Sometimes the solvent component of industrial cleaners acts as a co-solvent for solvents insoluble in water. In other cases, soaps or detergents may be used to bring about clear solutions or dispersions of otherwise non-miscible solvents in water.

One of the advantages of using synthetic detergents in the formulation of industrial cleaners, is the resistance of these products to lime in hard water, as well as their compatibility with strong alkalies and acids. Such properties are especially desirable in metal cleaning. Detergents without any builders may be used in acid cleaning and pickling of metals. However, it is more desirable to use detergents in combination with inhibitors and thus prevent the attack of the pickling acid on the metal itself. Phenylthiourea and thiourea are two very effective inhibitors for compounding with powdered detergents in the proportion of .01 to .05 per cent to increase the rapidity of the pickling effect and to prevent excessive corrosion of the metal proper.

Alkyl aryl sulfonates are the most suitable detergents for use in pickling. However, some petroleum sulfonates may also be used with advantage. The amount of detergent used generally lies between .1 and .2 per cent, calculated as active detergent matter.

Alkaline cleaning is a very important preparatory step in the electroplating industry. Although older methods of this cleaning operation consisted of simple alkali soaking, modern methods favor the use of compositions incorporating two to 10 per cent of active detergents. The alkyl aryl sulfonates, alkyl aryl sulfates, and petroleum sulfonates are used effectively in these formulations. Alkaline builders may be used alone as the cleaning compounds, but the wetting effect is much less effective.

Emulsion cleaners in the metal industry are used mainly to remove oily residues from metal parts and residues resulting from buffing operations. The cleaners may be based on petroleum or chlorinated solvents, kept in emulsion by suitable emulsifying agents; or they may be based on common soaps, although these types are no longer in general use. A large amount of commercial emulsion cleaners is based on amine soaps. One of the disadvantages of the amine soap emulsion cleaners, however, is their sensitivity to water. A disadvantage of emulsion cleaners in general is their sensitivity to traces of acids which may be left over from previous pickling operations.

In preparing emulsions based on mixtures of chlorinated and straight petroleum solvents, it is advantageous, from the point of view of emulsion stability, to proportion them so that the specific gravity of the mixtures approximate unity. Cleaners based on petroleum sulfonates are prepared by stirring warm water into the mixture of kerosene and sulfonate over a period of fifteen minutes.

Anionic detergents are sometimes used in the manufacture of emulsion cleaners. However, it is necessary to use electrolyte-free detergents for this purpose, as the sodium sulfate usually present in commercial detergents is detrimental to emulsification of the solvents. *Soaps, Perfumery & Cosmetics*, 24, No. 3, 238-244 (1951).

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Humidity Indicator

A humidity indicator, consisting of a card measuring 6 ¾" x 1 ⅞", with a vertical column of seven color spots denoting relative humidity from ten to seventy per cent, is suggested for use in "spot" checking humidity without recourse to instruments or charts. The indicator, called a "Humigraph" is usable at temperatures of 50 to 200° F., and is dependable for many months at low and normal humidity, for small changes the card responds in about ten minutes; and for a change of 40 per cent, the response time is about thirty minutes. Changes in humidity cause the spots to turn color. The reading is made at the top blue spot. The indicator is suggested as an insert for long term packaging of materials affected by humidity changes. *Andrew Technical Service (Chicago) Bulletin* (1951).

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Detergents in Microscopy

Small additions of a detergent such as "Teepol" to the water used in mounting powders for microscopic examination are suggested to avoid air bubbles, which form if the powder is greasy or resinous. H. S. Howes, *The Analyst* 76, No. 901, 240 (1951).

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"Consulting Services" Book

The revised, 13th edition of "Consulting Services 1951" was announced recently by the Association of Consulting Chemists and Chemical Engineers, Inc., New York, publishers of the new book. This text of 136 pages, 8½ x 11 inches, flexible binding, may be obtained by writing to the association at 50 East 41st St., New York.

The text is divided into three sections: (1) Classified . . . containing about one hundred headings with references to the members specializing in the various fields; (2) "Scope Pages" . . . in which the qualifications and activities of each member are listed; and (3) "Index" . . . alphabetical listing of members.

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Although early Greeks and Romans had a crude form of soap, they used it only for washing clothes. For personal cleansing they took steam baths, then beat themselves with twigs to loosen dirt. Gradually, as soap improved over the years, they discovered its virtues in bathing.

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PRODUCTION CLINIC

By E. G. THOMSSEN, Ph.D.

DISLOCATIONS of normal business procedure are on the increase in the present emergency. It is not uncommon to find in all types of industry manufacturers changing over their output to other types of products. Sanitary products suppliers are no exception in this respect. The trend will increase until tension in world conditions relaxes somewhat. In switching to the manufacture of new items, it is a wise policy to look beyond the immediate future to determine which rearmament supplies may have a permanent market. Some products, born in times of stress, become necessities in peace. A case in point, to which our interest recently has been turned is that of protective hand creams. During the World War II, large quantities of such creams were consumed by industrial plants, but when the war ended very little was heard of them. Most of these creams were used by women working in munition plants. It seems that during post war years the ball was muffed by manufacturers of such items in not cashing in on the fact that women are desirous of constantly protecting their hands. Many women are employed in factories in times other than during war.

Skin protective hand creams really are not cosmetics. They fall more readily into the field of health preservatives. Just as the use of disinfectants used in sanitary-cleaners and sold through sanitary chemical houses protects the health of factory workers, so do skin protective creams protect workers against occupational dermatoses. Since sanitary chemical manufacturers regularly service industrial plants, they are in a better position to make and supply skin protective creams than makers of toiletries. To the latter, the term "skin protective" is much more apt to apply to true cosmetics which prevent the sun, wind and other weather elements from injuring the skin. According to U. S. Health Service, 10 to 12 percent of all skin diseases in industrial plants are occupational, accounting for about 65 percent of plant illnesses. Skin

DR. THOMSSEN

diseases are on the increase, while all other occupational sicknesses are decreasing. Treatments are costly and loss of time is great. From this fact it is obvious that sound preventives are badly needed.

Among the most frequent causes of occupational dermatoses, the handling of chemicals leads. The U. S. Public Health Service gives the following chemicals as the leading offenders in the order of their importance;—petroleum oils and greases, alkalis, solvents, chromic acid and its salts, metals, dyes, rubber and its compounds, paints and varnishes and synthetic resins. Workers who handle listed items, some of which are dealt in by sanitary chemical dealers, use such names as baker's itch, ink acne, sugar itch, zinc pox and similar names to designate these skin ailments. Some persons are more susceptible to skin disorders than others due to predisposing causes such as race, perspiration, diet, hypersensitivity or allergy and lack of cleanliness.

The last of these predisposing causes: lack of cleanliness, is linked closely to other sanitary products. It refers not only to personal cleanliness, but to a clean work-place environment. Occupational skin diseases are known to be reduced by the daily cleaning of floors, walls and machines with effective cleansing agents. A daily change of clothing and frequent shower baths are important. Skin protectives are adjuncts to cleanliness and are not of themselves preparations for personal and environmental hygiene.

While an ideal method of reducing or eliminating occupational skin conditions is by preventing the irritating chemicals from contacting the skin, this goal cannot be attained, because protective devices sometimes are a cause of irritation. Effective dust proof clothing or gloves are subject to objection. Gloves, for example, in addition to being expensive, are removed frequently because they are uncomfortable, tear easily, cause the hands to perspire, and produce a more severe case of dermatitis than if the hands remain uncovered. As a result of these objections, correctly made protective creams based upon the right barrier substances, are often the answer to protecting the skin of the employee. By their use, it is possible not only to protect the skin during working hours, but to clean the hands thoroughly at the end of the working day. At the same time such protectives give comfort during work.

The formulation of hand protective creams depends upon the type of work being done and the offending irritant. For that reason, careful study should be made before recommending a particular preparation. With this aim in mind, we will consider the problem of various substances to be used in making them in our next article.

(*To be continued*)

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Vacuum Pump

A vacuum pump that has no moving parts has gained continued popularity in the vacuum, industrial field. It is the steam jet vacuum pump made by Croll-Reynolds Company, New York. Used on stills, evaporators, dryers and other equipment, the vacuums produced are limited only by the vapor pressure of the condensate, resulting in an average absolute pressure

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Protective Closure

MANY of the larger shippers packaging their products in steel drums are finding it profitable to use protective closures. "Tri-Sure Closures" made by American Flange and Mfg. Co., New York, are popular devices for the purpose. The closures are leak proof and tamper proof. Protection against loss from spillage and through tampering with contents is provided by such closures.

Waterless Window Cleaner

ACCORDING to Minnesota Mining & Mfg. Co., St. Paul, Minn., a new product to cleanse windows readily, without the use of water, has been developed. The preparation consists of a soft paper to which is attached a very fine, non-scratching abrasive.

Corrosion Proof Coatings

REILLY Tar & Chemical Co., Indianapolis, Ind., has developed a number of protective coatings to prevent corrosion. Among these are CA#5, for underground tanks and as a waterproofing cement, enamel and primer for steel pipe lines transporting petroleum products and water, CA#50 for metals exposed to fresh or salt water and Pipe Dip Compound for hot dipping of iron pipe and fittings. Full information is available upon request.

Carton Marker

A carton marker that is set up next to the sealing and packing operation to print shipping corrugated fiber or wooden cases, is offered by Adolph Gottscho, Hillside, N. J. It is designated the "Markoprinter." As filled, plain cartons move down the conveyor belt, this printer stamps the desired legend on four sides and tops of the containers. It is not necessary to space the cases at any special distance as the machine operates only when the package contacts the printing roll. Various size printers are available.

Paper Stops Rust

ANGIER Corp., Framingham, Mass., produces a chemically coated paper that emits a vapor that prevents rust. It is particularly valuable in eliminating the slushing of machinery with grease and oil during storage or shipping. A booklet "Application of Angier, VP-1 Wrap," is available upon request.

Dispenser for Jobbers

The availability for distribution to sanitary chemical supply dealers and jobbers of their wall type foot pedal soap dispenser was announced recently by Levernier Laboratories, Inc., Syracuse, Ind. The dispenser, which is sold under the trade name, "Air Lift" is made of brass, nickel and chrome plated. The spout and pump are of stainless steel and non-corrosive for use with soaps containing antiseptics, germicides, as well as alcohol solutions containing germicides. The dispenser has a special air release valve which permits the control of the amount of soap from a few drops to a tablespoonful. The valve also acts as a filler plug, and when unscrewed from the top of the dispenser a funnel may be inserted and the jar filled with soap or solution.

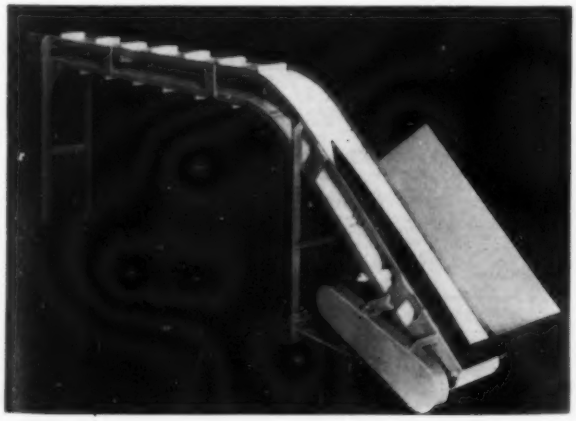
The dispenser is available with equipment for use as an alcohol dispenser for light work in doctors' offices and clinics and can be equipped with an alcohol spray nozzle for an additional charge. The dispenser is available with either a quart or a half-gallon jar.

New Hair Product

The development of "Vericrest," a new protein derivative, a diluted solution of which is claimed to give increased firmness and more body to human hair, was announced recently by Verapon, Inc., New York. The product, which also gives hair a higher gloss, can be used with all types of permanent wave solutions to protect the hair from injury. Longer lasting finger waves can also be obtained with the product, which is an after-rinse, according to the maker. Formulations, data, etc., are available.

New MM&R Price List

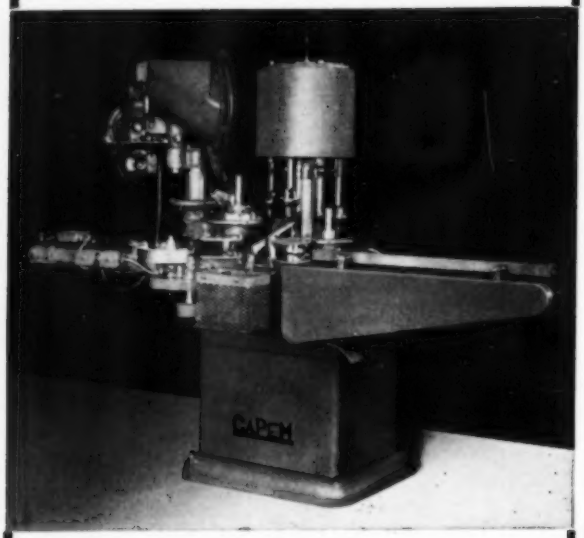
A price list and catalog of its line of essential oils, aromatic chemicals and related materials was issued recently by Magnus, Mabee & Reynard, Inc., New York. The second quarter catalog, which measures 9 x 4 ⅛ inches, contains, in addition to up to date listing of perfuming materials and their prices, the names and addresses of the firm's representatives in various cities throughout the U. S. A feature of the current catalog is the "MM&R Highlights" page and the revived custom of a biliographical sketch of one of the firm's old time employees. This catalog features Dominick E. Bellavigna, production superintendent in charge of manufacturing.



Conveyor especially adapted to packaging operations or where small light materials are to be conveyed was announced recently by Klaas Machine & Mfg. Co., Cleveland. Conveyor can be placed at dispensing end of packaging machine, transporting packages to place where boxing operation is performed.

CAPEM

THE MODERN SCREW CAPPER



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- **Increase shelf life, inhibit precipitation.**
- **Improve detergency, increase lather.**
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Borada & Page, Inc., Dallas and Houston, Texas
Associated Chemical Co. of Canada, 14 Darrell Ave., Toronto, Ontario

Book on Soap Making in India

Soapmaking, The Principles and Processes by R. L. Datta. Published by General Printers & Publishers Ltd., Calcutta, India (1949). 143 pages, 5½ x 8½ inches, cloth binding. Price $3.50.

This small book deals in an interesting way with the elementary principles of soapmaking as applied to India where the processing equipment is of the most elementary kind. For example, oils are purified by boiling with a brine solution and settling (P. 106), wooden frames of such small dimensions as 18" x 15" x 18" are described (P. 107), as are kneading soap into earthen cups (P. 80), and direct fired pans (P. 90-173) for liquid soap manufacture. This is more strongly emphasized still by the lack of references to any but the most elemental builders and their function in detergency, by the lack of bleaching or refining, by the lack of continuous soap methods, etc., although it is known that some of the most modern equipment is presently being installed in that country.

For this reason the book will have limited value to countries outside Asia except for those interested in the historical aspects of the subject. Indeed it is necessary to transpose one's thinking to an entirely new environment to appreciate the phraseology employed. The cotton tree (P. 16) for example looks like an error to an American until it is realized that the plant is a perennial in tropical countries. The mention of tallow being devoid of all acids above oleic (P. 36) is questioned until one realizes that the author is describing Indian goat tallow. Chapters 1, 2 and 3 on the chemistry of fats and raw materials are brief and to the point. The fatty raw materials are quite foreign to the American kettle and include such items as Punnal oil, Rayna oil, and Neem oil.

The chief contribution of the author is the development of a hardness number which is amply described and illustrated throughout the text. The reviewer took time out to check the value on a typical American toilet soap and found that we also know how to make a good soap. Details of this calculation are not given here, because American chemists think of soaps chiefly in terms of constituent acids, and secondly because we do not use such a variety of oils in our formulation that basic calculations would ever become a burden. The author does discuss some interesting conclusions regarding the properties of soaps from linseed, castor and other oils and the relationship of palmitic to stearic acid in the formulas. Several basic errors occur in theory however, such as the belief that the higher saturated acids hydrolyze more readily than the lower ones (P. 114) and that the removal of a nigre from a soap reduces its detergency through the loss of some intrinsic material (P. 115) (P. 128) (P. 130).

For all this, however, the book is well bound and printed, contains few typographical errors and provides a fund of practical information covering the practice of soapmaking in India.

John W. McCutcheon

Causes of Soap Sweating

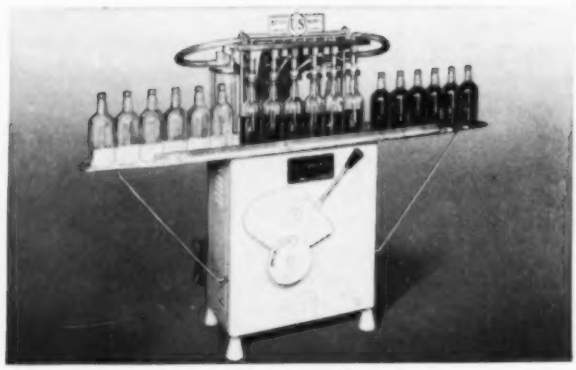
Studies of the various factors responsible for the "sweating" phenomenon in soap indicate that (1) sweating increases with the humidity of the surroundings, temperature remaining constant; (2) sweating varies inversely with temperature, humidity remaining constant; (3) temperature and humidity remaining constant, sweating varies inversely with the initial moisture content of the soap; (4) all the water that is absorbed during sweating is not removable completely even after continued heating at 100°C.-110°C.; (5) the presence of free alkali in soaps helps moisture absorption; (6) potassium soaps of fatty acids are known to sweat more than the corresponding sodium soaps; (7) among the soaps of individual fatty acids, the sweating capacity increases with the molecular weight; (8) soaps of unsaturated fatty acids sweat more than the corresponding soaps of the saturated fatty acids with the same number of carbon atoms; (9) in the case of soaps of mixed fatty acids, the amount of sweating is the average of the individual soaps, and in proportion to the percentage of each soap in the mixture; (10) the sweating characteristics of sodium rosinates are greater than those of potassium rosinates; (11) soaps of individual oils behave in the same way as soaps of mixed fatty acids; (12) soaps containing glycerine sweat more than soaps without it; and (13) foreign substances of both organic and inorganic nature influence sweating of soaps. *Indian Soap Journal* 16, No. 9, 240-249 (1951).

Moisture Content of Soap

The Karl Fischer titration test can be used satisfactorily to determine small amount of water present in soap and detergents to within .2 per cent. Tests with several alcohols, acetone and dioxane as anhydrous inert solvents for sensitive back titration were unsuccessful. Other methods tested for determining water content of soaps and detergents included: (1) heating the soap in air at constant temperature to constant weight, and (2) vacuum drying at low temperature. The first method gave very inconsistent results, while the vacuum method yielded consistent results. *Texas Journal of Science*, Z, No. 2, 209-212 (1950).

Syndet Sewage Problem

The surface effect of synthetic detergents persisting even at high dilutions is one of the properties causing problems for sewage disposal plants. However, relatively few syndets are used in quantities that may cause serious problems. Three methods of overcoming surfactant effects are described as follows: (1) destruction of surfactant chemically, (2) addition of materials which depress these effects, and (3) removal of the surfactant from solution by means of an absorbent. M. Schwartz, *Water, Sewage, and Sanitation Symposium* 119 Annual ACS Meeting (Part II), Cleveland, (April, 1951).



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PRODUCTS AND PROCESSES

Terebenthene Soluble Soap

A soap insoluble in water but soluble in white spirit and terebenthene is formed by the incomplete saponification of fats, resins, etc. Ten parts of colophony, ten parts paraffin and two parts sodium hydroxide (35 Be) are mixed and heated to remove the water. Soaps of magnesium, calcium, barium, aluminum, zinc, and lead are prepared either directly or by decomposing the sodium salt. French Pat. 944,519, 944,520 through *Chem. Abstracts.*

Polyphosphate Cleaners

Various combinations of polyphosphates together with other organic or inorganic substances, such as soda, water glass, soap, peroxide, perborate, persulfate, etc., may be used for cleaning, washing and bleaching. The quantities of the various ingredients depend on the cleaning process. Ger. Pat. 753,058 through *Chem. Abstracts.*

Liquid Dentifrice

An aqueous solution containing three per cent monoethanolamine and ten per cent triethanolamine lactate (pH 9.5) is suggested for use as a dental cleaner, to remove discoloration and deposits on the teeth. French Pat. 943,987, through *Chem. Abstracts.*

Continuous Soap Making

A water-in-oil emulsion is formed of tallow or other fat with forty per cent sodium hydroxide. About one to two per cent of the sodium hydroxide solution in excess of the amount required theoretically for saponification, is measured automatically for the reaction. The temperature is raised to 100°, and when saponification is complete, the mixture is washed several times with a twelve per cent solution of sodium chloride, followed by two washes of twelve per cent sodium hydroxide. The small amount of alkali left is then neutralized with free fatty acid or triethanolamine sulforicinoleate. Saponification is controlled automatically by use of a photo electric cell which observes the clarity of the solution, or the change in color of a pH indicator. French Pat. 946,746. Through *Chem. Abstracts.*

Exothermic Soap Bars

A soap bar which is exothermic in water of any temperature consists of two separate soap cakes, juxtaposed together to form one bar. The two soap cakes contain reagents of a different nature (one is acidic, the other basic) such that when they are brought into contact by means of washing water, they react exothermically. Some of the chemical pairs which may be used are: sodium carbonate-sulfuric acid; iodine-bromine; iodine-chlorine; bromine-chlorine. Brit. Pat. 643,493 (1950) through *Chem. Abstracts.*

Medicated Soaps

The practice of incorporating medicinal ingredients or vitamins in products used on the skin is often based on the theory that the medicament incorporated will be absorbed by the skin. Use of such additives to soap is considerably limited since soap has no penetrating power, and furthermore is in contact with the skin for very short periods of time. It is pointed out also that medication by the skin is in contradiction to the natural function of the skin, which is normally an organ of elimination rather than absorption.

Medication of the skin can be effective only if a penetrating agent is used with the medicants, and by allowing adequate time in contact with the skin. Lanolin, is one agent which has good skin penetrating power, possibly due to its capacity for absorbing large quantities of water. The penetrating power of soap can be improved by the addition of a suitable agent such as lanolin. A workable formula for a medicated soap on this basis is suggested as follows:

	Parts
Toilet soap base	100
Lanolin	7
Flower of sulfur	10
Wood tar	15

The medicinal ingredients are added in small quantities at the milling stage. *Indian Soap Journal* K. Narasimham, 16, No. 8, 223 (1951).

Shaving Cream Making

Fats and oils used in the manufacture of shaving creams with a soap base include stearic acid, tallow, pork grease, almond oil, olive oil, arachide oil, palm oil, cocoa butter, coconut oil, myristic acid, and olein. The pearly sheen of creams is due to a pork grease base, or highly purified and bleached horse fat. Glycerine, formamide, or pure glycol derivative may be added to improve consistency and serve as hair emollifying agents.

Fats are saponified with potassium hydroxide, although small amounts of pure sodium lye may be used also. It is advisable to superfat the cream, for which purpose, cereps, cetiol cetyl alcohol, glycerine monostearate, and various other products are used. Wetting agents, particularly the triethanolamine soaps, sulfonated fatty alcohols, Igepons, and turkish red oils are used. Turkish red oil reduces the foaming property somewhat, but favors the quicker formation of foam.

A formula suggested for preparation of shaving cream is given below. It is interesting to note that the consistency of the cream is partially due to the quality of the stearin. Too compact a mass may be modified by adding potash solution.

	Parts
Cocoanut oil	75
Pork grease	100
Stearin	150
Olive oil	50
Potassium lye, 38° Bè	210
Softened water	400
Alcohol	5
Glycerine	20
Stearin	35

The first four fats are melted and heated to 80° C. The lye, water, alcohol and glycerine are mixed in another container and heated to the same temperature. The fats are added to the lye solution, and after saponification, the balance of the stearin is added to the soap paste. H. Herwit *Alchimist* 5, No. 4, 98-100 (1951).

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by E. G. Thomssen and J. W. McCutcheon

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Synthetic Detergents
Analytical Methods

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NEW PATENTS

The information below is furnished by patent law offices of

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The data listed below is only a brief review of recently issued pertinent patents obtained by various U. S. Patent Office registered attorneys for manufacturers and/or inventors. Complete copies may be obtained direct from Lancaster, Allwine & Rommel by sending 50c for each copy desired. $1.00 for Canada. They will be pleased to give you free preliminary patent advice.

No. 2,545,357. Detergent Composition and Method of Preparing Same, patented by David W. Jayne, Jr., Old Greenwich, Conn., assignor to American Cyanamid Company, New York, N. Y. A detergent composition is covered comprising a member of the group consisting of the alkali metal and ammonium salts of an ester of phosphoric acid and an amide obtained by condensation of a fatty acid having from about 6 to about 18 carbon atoms with a member of the group consisting of primary- and secondary-amino alcohols in a 1:1 molar ratio, a member of the group consisting of di and tri valent alkali metal and ammonium phosphates, and a sufficient amount of a member of the group consisting of alkali metal carbonates, alkali metal sulphates, alkali metal nitrates and borax to produce a dry, free-flowing powder, the proportion by weight of said salt of said ester of phosphoric acid and amide to phosphate being from about 1:1 to 1:2.5.

No. 2,543,744. Nonfoaming Soap Composition, patented by Arthur L. Fox, Easton, Pa., assignor to General Aniline & Film Corporation, New York, N. Y., a corporation of Delaware. A non-foaming detergent composition is described consisting essentially of a mixture in proportions of from about 1:2 to about 1:4 of, respectively, an alkali metal soap and a water-soluble synthetic non-ionic surface active polyalkylene glycol ether of a compound selected from the group consisting of long chain aliphatic alcohols containing at least twelve carbon atoms and alkyl phenols containing at least six alkyl carbon atoms, said polyalkylene glycol ether radical containing at least four alkyleneoxy groups.

No. 2,548,914. Color and Stain Removers for Fabrics, patented by Eugene D. Seiter, Jersey City, N. J., Chester M. Gooding, Staten Island, N. Y., and Elliott Morrill, Oak Park, Ill., assignors to The Best Foods, Inc., New York, N. Y., a corporation of New Jersey. A solid dry color and stain remover for fabrics is patented, consisting essentially of 100 parts by weight of basic zinc sulfoxylate formaldehyde, 200 to 400 parts by weight of succinic acid, and 1 to 20 parts by weight of para diisobutyl phenoxy ethoxy ethyl dimethyl benzyl ammonium chloride.

No. 2,548,892. Color and Stain Removers for Fabrics, patented by Chester M. Gooding, Staten Island, N. Y., Elliott Morrill, Oak Park, Ill., and Eugene D. Seiter, Jersey City, N. J., assignors to The Best Foods, Inc., New York, N. Y., a corporation of New Jersey. The patent describes a solid dry color and stain remover for fabrics consisting essentially of 100 parts of basic zinc sulfoxylate formaldehyde, a solid dry α-hydroxy carboxylic acid and 1 to 20 parts of para diisobutyl phenoxy-ethoxy ethyl dimethyl benzyl ammonium chloride, the solid dry α-hydroxy carboxylic acid and the amount thereof being selected from the class consisting of 45 to 150 parts of citric acid, 50 to 90 parts of tartaric acid, 60 to 200 parts of malic acid and 70 to 200 parts of hydroxyacetic acid.

No. 2,546,895. Aerial Disinfectants and Method of Using the Same, patented by Charles I. Jarowski, Flushing, N. Y. assignor to Vick Chemical Company, New York, N. Y., a corporation of Delaware. The patent describes a composition suitable for use in purifying air when vaporized therein, said composition comprising aromatic essential oil having dissolved therein a compound of the generic formula $R—(CH_2)n—COOH$ in which R is the cyclohexyl radical and n is an integer from 1 to 9, said composition being vaporizable with steam and when vaporized in air being characterized by its ability to kill bacteria when the relative humidity of the air is maintained below about 75%.

No. 2,546,176. Insecticidal Composition Containing a Polychloro p-Menthane, patented by William D. Stonecipher, Newark, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware. The patent describes an insecticidal composition comprising an aqueous dispersion of a polychloro p-menthane containing from about 50% to about 75% of chlorine.

No. 2,546,175. Insecticidal Composition Containing A Polychloro p-Menthane, patented by William D. Stonecipher, Newark, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware. The patent describes an insecticidal composition comprising a polychloro p-menthane containing from about 50% to about 75% of chlorine and a finely divided solid carrier.

No. 2,540,239. Insecticidal Paint, patented by Garfield Arthur Bowden, East Orange, N. J., and Carl Iddings, Manhasset, N. Y., assignors to Boyle-Midway Inc., New York, N. Y. a corporation of Delaware. Covered by the patent is an insecticidal substantially water-immiscible, coating composition comprising a coating composition substantially immiscible with water and containing a substantial portion of an unsaturated, fatty drying-oil constituent as the major film-forming agent, a proportion, effective as an insecticide of 2,2-bis(p-chlorophenyl) 1,1,1-trichloroethane, and an organic volatile solvent for said 2,2-bis(p-chlorophenyl) 1, 1, 1-trichloroethane, the amount and the volatility of said solvent being such as to cause migration of said 2,2-bis(p-chlorophenyl)1,1,1-trichloroethane to the exterior of the coating film after an initial film has been formed.

No. 2,546,174. Insecticidal Composition Containing a Polychloro p-Menthane, patented by William D. Stonecipher, Newark, Del., assignor to Hercules Powder Company, Wilmington, Del., a corporation of Delaware. An insecticidal composition is described comprising a polychloro p-menthane containing from about 50 to 75% of chlorine and a hydrocarbon solvent therefor.

No. 2,544,725. Method of Refining Glyceride Oils, patented by Theodore H. Rider, Hinsdale, and Solomon D. Gershon, Chicago, Ill., assignors to Lever Brothers Co., New York. The patent covers a process of refining a glyceride oil containing dissolved undesirable impurities, which comprises adding to said oil an amount in the range of 0.5 to 10% of an oil soluble partial higher fatty acid ester of a polyhydroxy aliphatic compound containing at least one free hydroxyl group, then mixing water therewith, and then separating the aqueous phase from the refined oil phase, said aqueous phase containing undesirable impurities removed from the oil, and said refined oil phase containing said ester.

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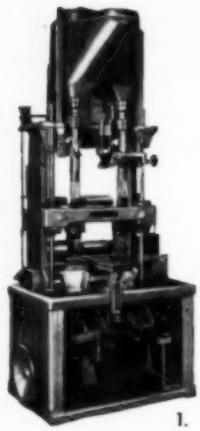
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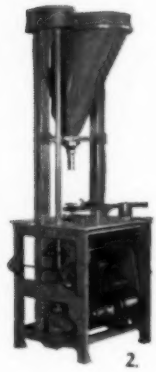
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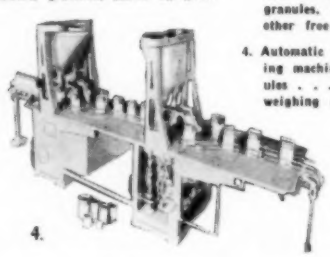
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SOAP PLANT OBSERVER

By John W. McCutcheon

ALTHOUGH the use of borates in soap products was briefly mentioned in the January issue in this space, no mention was made of the perborates. From time to time the question arises as to why chemical bleaching agents are not added to American soap and detergent products as is done extensively in Europe. For years, one of the best known British products was "Persil" which contained sodium perborate as its bleaching agent. Bleaching materials have been added on occasion to American products but have been discontinued for one reason or another.

In recent years, the optical bleaches have taken their place in practically all soap and synthetic powders so that there is not the need for an additional chemical bleach. Whitening agents bleach by absorbing the ultraviolet light and reflecting it at a visible wave length designed to neutralize the natural yellowing of the fabric. The factors of stability, substantivity and build-up on the fibre have been discussed at some length elsewhere, (See this column May, 1949, also *Soap and Sanitary Chemicals*, March and April issues 1950) and need not be treated further here.

Even had the optical bleaches not appeared, American methods of manufacture and use would have required considerable modification in order to incorporate such products. True sodium perborate, for example, has the formula $NaBO_3H_2O$ or $NaBO_3 4H_2O$. Sodium metaborate crystallized with one molecule of hydrogen peroxide and three of water $NaBO_2H_2O_2 3H_2O$ is also called sodium perborate and contains approximately 10 per cent available oxygen for bleaching action. This is the one commonly used. It may be made by reacting sodium peroxide (but not hydrogen peroxide) with the tetraborate. This product decomposes just over 100° F. so that its incorporation into a soap powder is a problem. The common European method is to crutch

MR. McCUTCHEON

the soap separately and dry to a powder. Then to blend the perborate separately in any quantity desired. It could not be blended with the hot soap nor spray dried as is American practice. As an example, a simple rather alkaline perborate powder, which requires the minimum of equipment for manufacture, follows:

Soap Base Tallow 50%/CNO 50% & 63% Fatty Acid content.....	65%
Soda Ash	25%
Neutral Sodium Silicate 40 Bé..	10%
	100%

The above is crutched to a pasty mass which forms small lumps when it has cooled to about 130° F. This is discharged and allowed to stand a few days in buggies or bags to set-up. The product is then ground and mixed cold with 10 per cent of its weight of sodium perborate.

From the above example, it is seen that the method of manufacture would not be suitable for American practice nor would the type of product be acceptable to the American housewife. An additional point to note is that in many foreign countries people wash with much colder water than in America. England, for example, is one such country. The effect of hot water would tend to decompose the perborate too rapidly for maximum bleaching effect.

Another bleaching material built on the same lines is sodium percarbonate which also may be considered as having a certain proportion of its water of crystallization replaced by hydrogen peroxide. These forms may be made by crystallizing mixtures of peroxide and soda ash solutions from alcohol. $Na_2CO_3H_2O_2 \frac{1}{2} H_2O$ and $Na_2CO_3 1\frac{1}{2} H_2O_2$ contain about 11 and 15 percent, respectively, active oxygen, although the mixtures of the two generally contain 10-13 percent active oxygen. They are fairly stable at room temperature but decompose readily on heating. Such compounds would have not only the drawbacks pointed out for the perborate but, in addition, would add alkali to the soap or synthetic powder, out of range of present consumer acceptability.

Because perborates and percarbonates do not appear promising as bleaching agents in soap, it must not be inferred however, that they may not have other and useful applications. Sodium perborate, available from E. I. du Pont de Nemours & Co. the only American producer as far as we know, has been used in textile processing for years. Sodium carbonate peroxide, made by the Buffalo Electro-Chemical Company of Buffalo, N. Y., presently sells for 55 cents per pound.

Another boron compound of interest to soap makers is boric or boracic acid. This compound has been used for many years in toilet soaps to reduce alkalinity and to give a mild skin action. Soaps for babies, are very apt to have a percentage of this material milled into the base. Specialty soaps often derive their names from this ingredient. "Boracic and Cold Cream Soap", a product of Lever Brothers, England, is an example. Boric acid may also be used in synthetic detergent powders for the same pur-

(*Turn to Page 97*)

EXQUISITE FLORALS FOR SOAPS

Apple Blossom	Honeysuckle	Rose
Carnation	Hyacinth	Sweet Pea
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GROUP-LIST NO. 1 IS . . .

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Patents are yardsticks by which technical advances in any industry are measured. Over 2,540,000 patents have been issued to date, and the Patent Office has over 120,000 more awaiting processing in 1951. Knowing the total patents in a certain classification, or in a particular sub-classification — plus main technical claims — can be a very revealing study to a technical man or woman. Soap and Sanitary Chemicals has arranged to provide certain Patent Group-Lists for its technical readers, the subject matter embracing items of wide current interest. By studying this Group-List a Research Chemist can discover new materials and methods and *today's* technical thinking on subjects in which he is vitally concerned.

The first Patent Group-List is SOAP AND SYNTHETIC DETERGENTS (SD-3). A total of 65 of the 181 patents shown have expired. Exact expiration dates of the remaining patents are given. Subject matter includes: Synthetic Detergents, 68 patents; Disinfecting and Medicated Soaps, 15; Shaving, 14; Brushless Shaving, 6; Toilet, 35; Water Softening, 4; Soap Processing, 25, etc. Technical claims on which the patent was granted are shown. Offset printed on one side only of 8½" x 11" page. Ask for Group-List SD-3..... **$5.00**

OTHER GROUP-LISTS OF INTEREST TO SOAP & DETERGENT MANUFACTURERS

Synthetic Detergents No. 1..... **$2**

206 *expired* patents. Including Toilet Soaps, Household and Heavy Duty Cleaners, Textile Detergents, Paint and Varnish Removers, etc.

Synthetic Detergents No. 2..... **$4**

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(NOTE: Patents are not duplicated in these 3 Group-Lists)

Vegetable Fats and Oils, Fatty Acids, Waxes, etc. **$4**

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Synthetic Resins With Ion-Exchange Applications **$5**

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pose, although in this case the use is not common.

* * *

THE use of sodium chlorite or chlorine dioxide bleaching of tallow, introduced to the industry about five years ago, has developed into rather a controversial problem. A considerable number of renderers have found the method useful. On the other hand, one large soap maker is very decided that tallow prepared by such a process results in a soap of inferior grade. Chemical bleaching whether done with sodium chlorite, sodium dichromate or air (as for palm oil), has never been popular among soapers. Just how much of this controvery is due to prejudice and how much is based on factual experience remains to be seen. Perhaps the publication of a few reports covering both viewpoints would be a factor in clarifying the situation.

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Breuer "Tornado" Folders

Folders on its line of "Tornado" floor machines and heavy duty, industrial vacuum cleaners were issued recently by Breuer Electric Manufacturing Co., Chicago. Specifications, applications, and accessories and attachments for the units are described and illustrated in the folders. Both machines are on display at the exhibit being held in connection with the meeting of the National Sanitary Supply Association in Cleveland.

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1951 Consumer Analysis

The 1951 "Consolidated Consumer Analysis", providing information on product use and brand preferences in 15 markets throughout the United States was issued recently. The data are compiled by 15 newspapers (including the *Milwaukee Journal*) serving the areas for which figures are listed. Product categories appearing in this edition include steel wool and metal cleaners, products for household laundry, self-polishing liquid wax, powdered scouring cleansers, paste wax, toilet bowl cleaners, toilet soap, products for hardwood floors, bath toilet soap, products for (washing) dishes, products for linoleum or tile floors, cream shampoo, liquid shampoo, tooth powder, tooth paste, etc.

Booklet on Govt. Buying

Increased U. S. purchase of sanitary supplies, disinfectants and cleaning materials is foreseen in a recently issued policy manual, "Getting Military Work" by Walter Lord, and published by Business Reports, Inc., 225 W. 34th St., New York. The increased purchases of these supplies stems from the renewed Communist offensive in Korea, according to Mr. Lord, who explained that similar heavy purchases were experienced in earlier North Korean campaigns.

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New Sludge Solvent

Brilco Laboratories, Brooklyn, recently announced the development of "Brilco Sludge Solvent", a liquid fuel oil additive that is claimed to overcome difficulties, other than mechanical, which arise through the use of fuel oil. The new solvent lowers interfacial tension of sludge, dispersing it and liquefying it permanently throughout the oil system. Use of the product is said to eliminate the need for manual cleaning of tanks and preheaters. It actually uses the sludge as burnable oil, according to the maker.

—— ♦ ——

British Detergent Patents

The availability of 54 selected patents of chemical compositions, some dealing with detergents and miscellaneous chemicals, was announced recently by Patent Publications, Washington 15, D. C. The initial list of British patents, to which supplements will be issued from time to time, is available to interested technologists by writing Patent Publications at Box 4094, Washington 15, D. C.

—— ♦ ——

New Rubber Drum

The development of a new 55-gallon synthetic rubber-fabric drum, suitable for shipping liquids was announced recently by United States Rubber Co., New York. The drum can be collapsed after emptying and is returnable and reusable. Limited quantities are already being produced for essential uses in the liquid chemical and petroleum fields. According to the company, experimental tests indicate that the new drum is suitable for the shipment of soaps, greases, fats, acids, emulsions, oils, dry powders, etc. It is made of "Ustex" cord fabric, a cord of strong, low stretch cotton textile made by U. S. Rubber Co., impregnated with synthetic rubber and molded in one piece. It is equipped with simple, effective fittings for filling, emptying, lifting and handling.

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Booklet on New F.A.

The availability of a new 16-page booklet on Emery 955 Dimer Acid, just established as a standard sales product, was announced recently by Emery Industries, Inc., Cincinnati. The booklet contains a complete description, characteristics, specifications, shipping and handling data, and potential applications in soaps, greases, insecticides, etc. A complete bibliography is also included.

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Water Treatment Booklet

A 16-page booklet on water treatment and water conditioning was published recently by Brooks Chemicals, Inc., Cleveland. The booklet provides technical data and describes the company's services, products and methods employed in solving water problems of industry, institutions and government. Included in the booklet is a study of 10 impurities common in water, the damage they cause and how to combat them. Copies are available free by writing the company at 3304 E. 87th St., Cleveland 27, O.

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New D&O Catalog

Issuance of a 40-page, 8½ x 11 inch catalog of its line of essential oils, aromatic chemicals and related materials was announced recently by Dodge & Olcott, Inc., New York. A list of the company's branches throughout the U. S. is also included.

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Nopco Soap Bulletin

A technical bulletin on its "Nopco Soap C", a low titre, water, soluble soap for use in alkaline cleaning compounds, was issued recently by Nopco Chemical Co., Jersey City, N. J. In addition to describing and listing the specifications of the product, the bulletin includes a number of basic formulations for alkaline cleaning compounds together with suggested uses and amounts needed for effective cleaning.

Hand Cleaners

(*From Page* 33)

such preparation designed to remove grease, grime, paint, ink and similar soils, consists of sulfonated vegetable oil, a penetrating agent and sodium hexametaphosphate as a water-softening ingredient.

Synthetic detergents, especially the anionic types, are also finding growing use in industrial hand cleaners. (13, 36) Materials, like the fatty alcohol sulfates and others, work well in hard water and display good cleaning properties. They can be manufactured so that their solutions have a wide pH range and can therefore be used as "acid soaps" in cases of alkali sensitivity. However, these synthetic detergents may defat the skin and they can cause dermatitis, especially on dry skin. (15)

It has been found (37) that the defatting action of these detergents or wetting agents can be counteracted by mixing them with sulfonated animal or vegetable oils. The resulting products are useful for removing petroleum oils, greases, coal tar, or synthetic waxes from the skin. (25) Emollients, like lanolin and its derivatives, may also serve to combat the drying and defatting effects of the synthetic detergents. Also worthy of investigation in this connection are the so-called skin conditioning agents found so useful in shampoo formulations. (38)

Water softeners are sometimes added to cleaners to improve their effectiveness in hard water areas. Of interest in this connection is the suggestion (39) that a product containing borax and dry, powdered soap in approximately a 3:1 ratio could be used as an anti-dermatitis cleanser. It was explained that the mildly alkaline borax provides a temporary scrubbing action while affording a detergent and slight water softening effect of its own.

Although the use of alkalis is generally discouraged, the inclusion of a material of this kind in the cleanser may be indicated for the removal of tenacious dirt, thereby avoiding the excessive scrubbing that might injure the skin. (21) Sodium carbonate, sodium silicate, sodium metasilicate, trisodium phosphate and trisodium borate are the alkalis commonly added to soap. (40) When such additions are made to industrial skin cleansers, it is considered advisable (29) to superfat the soap with lanolin to buffer the action of the alkali on the skin.

In passing, it may be mentioned that Klauder and Gross (13) found, in their examination of 103 hand cleaners for industrial workers, that 94 were alkaline, one was neutral, and eight had a pH below 7.

Solvents Objectionable

SOLVENTS are considered objectionable in industrial hand cleaners. However, like alkalis, they are sometimes needed to help remove certain types of soil. Illustrative is the following cleansing paste for removing hectograph or indelible ink stains from the skin: (29)

	parts
Soap	30
Sulfonated castor oil	16
Synthetic detergent	20
Trisodium phosphate	4
Dioxane	20
Colloidal clay	10

It is advised that the use of a cleaner containing added alkali and solvents should be followed by the application of an emollient consisting of equal parts of lanolin and cold cream. The following (40) may also be used under the same conditions:

	parts
Lanolin, anhydrous	70
Castor oil	30
Perfume	1

However, solvent-containing compositions suitable for removing asphalt, tars, greases and similar grime from the hands are claimed to fulfill their function without the danger of causing irritation. According to the patent, (41) such cleaners may consist of an ethanolamine, oleic acid, dichlorobenzene, butyl Cellosolve, glycerine and water.

Naturally this brings up the role of industrial skin protective or barrier creams in the prevention of occupational dermatoses. As has been remarked on several occasions, (11, 21, 53, 54) even though such preparations are rather low on the list of protective measures, often they are the only means available for protecting the skin against irritants and sensitizers. As pointed out in one survey, (55) skin protectives have been the subject of intensive research during recent years and a number of effective products have been developed. It is also noted that if the results of these studies were better known and applied, the problem of industrial dermatitis would be under much better control.

Broadly speaking, the primary function of a skin protective, whether it be a cream, ointment or lotion, is to interpose a barrier between the skin and the substances that may cause irritation and dermatitis. In addition, when a protective product is used, the worker washes it off with soap and water immediately after work and so removes not only the cream but also any irritants on the skin. This washing after work adds considerably to the protective effects provided by the cream.

Considering the number of diferent types of irritants and sensitizers to which the skin may be exposed, it is obvious that a variety of protectives must be made available. Basic requirements for these various preparations have been proposed from time to time, (14, 56, 57) but those given by Schwartz (7) are indicative. In his expert opinion, all such preparations should have the following properties: (a) They should be non-irritating and non-sensitizing, (b) They should give actual protection from the irritant, (c) They should be of such consistency that they can be easily applied, and (d) They should be easily removable after work and yet stay on while the worker is exposed to the irritant.

In addition to meeting these basic performance requirements, an industrial skin protective should have an agreeable appearance in order to find acceptance and use. Growing recognition of this need for "cosmetic elegance" is apparent in Swanston's (58) statement that barrier creams must

(*Turn to Page* 157)

SANITARY PRODUCTS SECTION

Insecticides • Disinfectants • Moth Products
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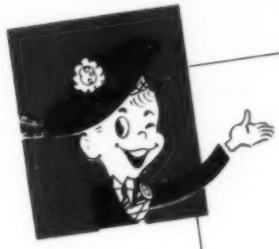

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Need good stable sudsers that rinse freely, are perfectly balanced and protect fabrics? Here's the Drew Suds Family.

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PRODUCT	TITRE	HIGH pH	MED. pH	LOW pH	ALKALI DETRGS.	BUILT SOAPS	NEUTRAL SOAPS	SYNTHETICS
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SUDSYN				X				X
BREAKSYN	Med. High	X			X	X		X
NAPSO 60	High		X			X		
NAPSO 22	Low		X			X		
NAPSO 40	High		X			X		
C. W. NAPTEX	Low			X		X		
LAUNSO	High		X			X		
DREW 90 PLUS	High			X			X	
NEUTRASUDS 88%	High			X			X[1]	
NEUTRASUDS 98%	High			X			X	
NEUTRASUDS 88%	Low			X			X	
NEUTRASUDS 98%	Low			X			X	
S. E. B.	Low			X			X	

For further information write

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In thousands of applications throughout the country, chlordane has proven effective time and time again in the control of subterranean termites.

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Imagine your package modernized with colorful plastic. Calmar Sprayers are available in head and collar combinations of Carnation Red, Sky Blue, Bright Blue, Kelly Green, Canary Yellow and Ivory . . . all bright, non-fading, precision moulded plastic.

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NOW BUILDING SALES FOR LEADING MANUFACTURERS

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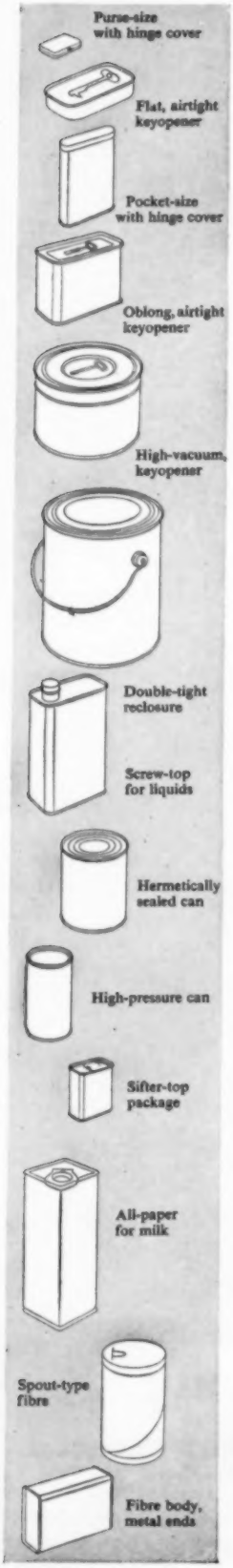
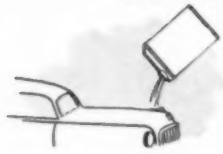
WHICH PACKAGE SUITS YOUR PRODUCT?



Did you know that...

This container is used for Pancake Syrup

And also for Salad Oil

 Not to mention Anti-Freeze

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And these are just a few of the many, many products which may be ideally packaged in this container!

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Now, did you know that this is just one of *hundreds* of containers pioneered and developed by Canco for many different businesses in many different fields?

It is this 50-year experience in pioneering and developing which makes Canco the most versatile manufacturer in the industry.

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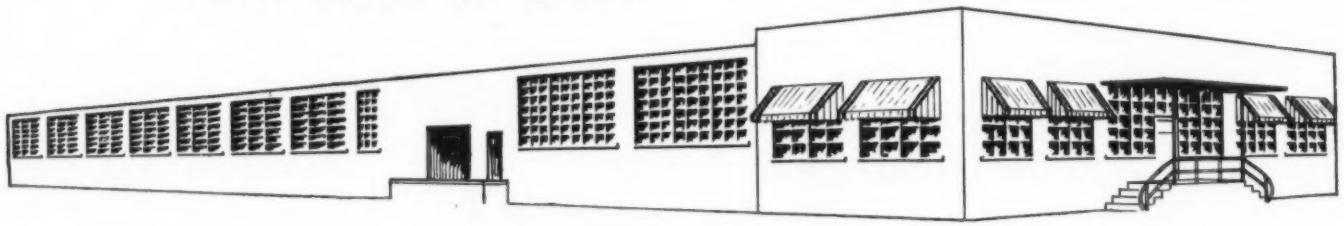

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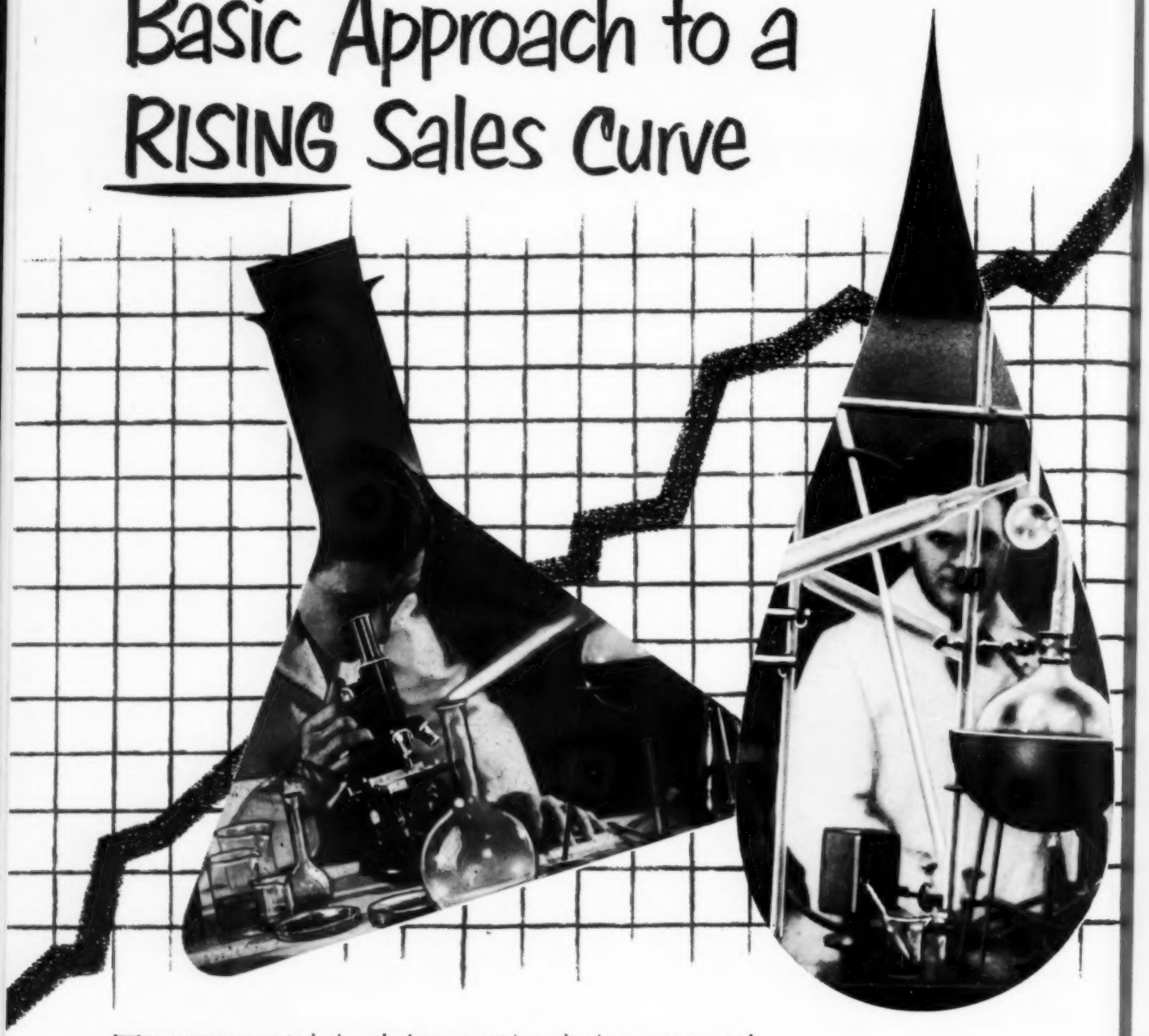

THE SUREST ROUTE to *lasting* sales-improvement is product-improvement . . . and often the most effective way to improve a product is to improve its *scent!*

As one of the world's great suppliers of Essential Oils, Perfume Oils and related materials, MM&R has cooperated in the establishment of individualized odor personalities for *hundreds* of leading products! Perhaps MM&R can now be of important service to *you!* More than 56 years of specialized experience are at your command, without obligation.

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HUDSON SPRAYERS ARE BUILT TO LAST!

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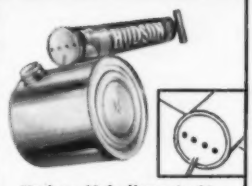
Hudson Capital Compression Sprayer. Galvanized steel tank, 2⅔ qt. "2-Spray" nozzle for either wet residual or fine space spray. Thumb lever gives instant control of discharge. "Nu-Action" pump.



Hudson Nebulizers in ½ pt., pt., qt. and 2 qt. sizes. Fine floating cloud from 4-jet nozzle knocks down 20% more flies . . . kills 25% more of them. Look for the 4 jets.

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Hudson Lektrik-Spray. 3 quart stainless steel or 24-oz. glass container. AC/DC motor. Toggle or automatic time switch. Dual-purpose nozzle for either wet residual spray, or fine space spray.

Hudson Peerless Power Sprayer. Long-life positive piston pump. Stainless steel ball valves in stainless steel cage. Oil- and chemical-proof hose. 250, 400, 500 or 800 lbs. pressure. 4 or 8 g.p.m. output. 30, 50, 100, 150 gal. tanks.

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Base your insecticides on Pyrenone* and they'll be effective against *all* these flies and many other insects that commonly attack dairy cattle—not only horn flies, stable flies, deer flies, and houseflies, but the vicious disease-carrying horsefly, too. Pyrenone-based insecticides kill them all—fast. Yet they won't contaminate milk or meat with toxic chemicals . . . are free from unpleasant odors.

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HELP CUSTOMERS MODERNIZE FLOOR MAINTENANCE

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PECK'S MISTY FLOOR SHINE

Builds Profits . . . Builds Satisfaction!

- **Keeps floors cleaner, brighter, EASIER**
- **Reduces frequency of soap and water scrubs**
- **Makes sweeping easier, saves sweeping time**
- **Fewer waxings needed, reduces waxing time**
- **Controls floor dust for cleaner, healthier rooms**

Offer this better way to maintain floors. If your customers aren't using Misty Floor Shine now, there's extra profit for you in showing how this method saves them money.

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Have Misty Floor Shine in your line. See how fast the sales mount. Misty Floor Shine is a high-profit item that sells in big volume.

"ONE OF BEST PROFIT MAKERS," SAYS CHICAGO FIRM

A Chicago janitor supply firm introduced Peck's Misty Floor Shine to his customers three months ago. He wrote recently: "Now we wouldn't think of suggesting items without putting Misty Floor Shine at the top of the list. It has become one of our best profit makers."

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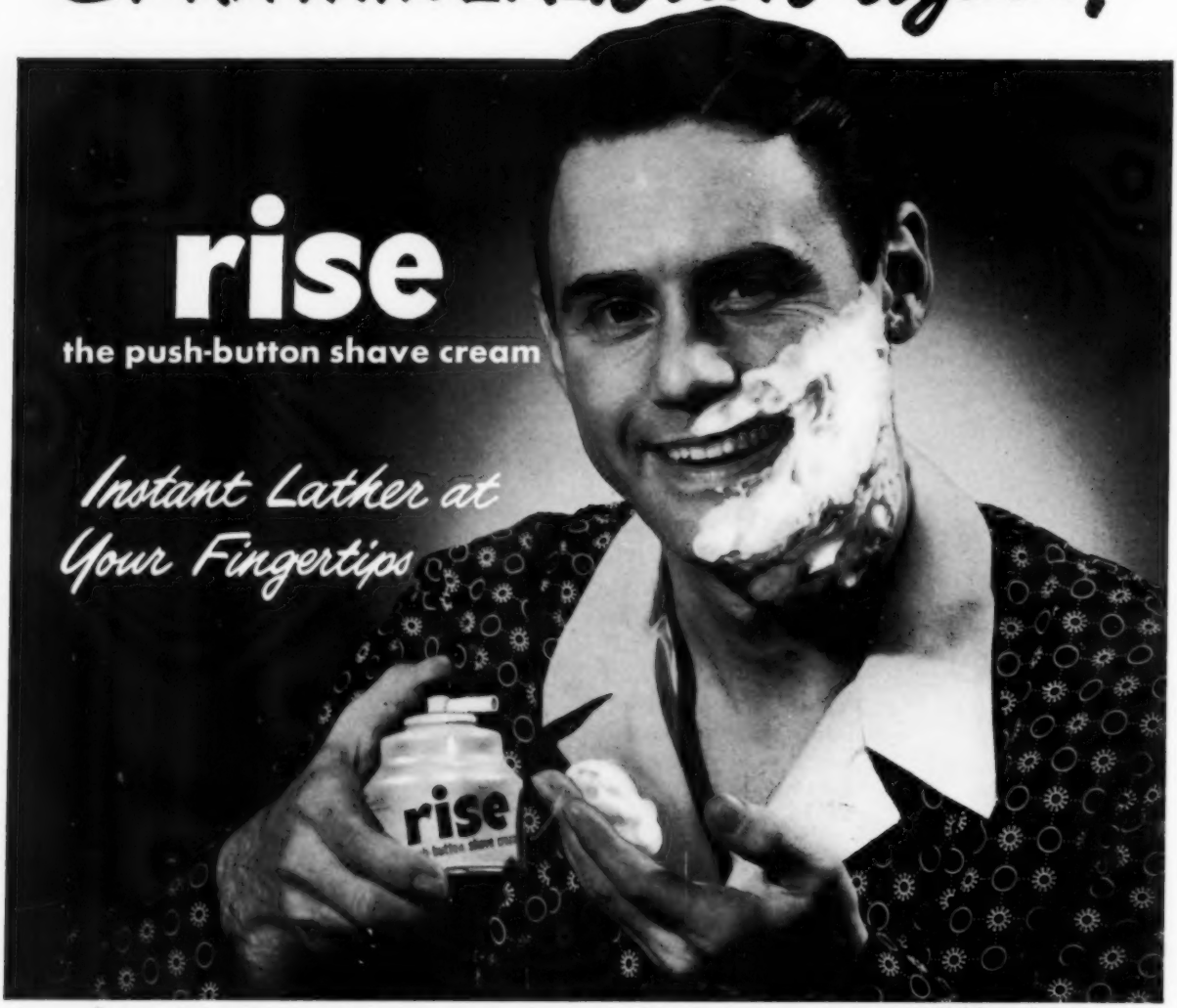

rise is the greatest contribution to *quick, easy, comfortable* shaving in modern times! Unlike ordinary, conventional brushless shave preparations, RISE is beard-softening, skin-soothing *brushless lather* which is pressure dispensed — ready to use — right from its Crown SPRA-TAINER.

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Touch the button and out sprays a constant stream of rich lather.

Ease:
No brush needed! Simply smooth the fluffy lather over your beard.

Comfort:
Whisk off whiskers for a clean, close shave with no pull or pain.

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Perhaps you, too, have a product which will spray. Investigate Crown SPRA-TAINER!

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WITH

MGK Allethrin

IN AEROSOLS

Plan to *increase* your sales of aerosols in 1951 despite the short supply and higher price of pyrethrin. Use MGK Allethrin, "264" and DDT alone, or in combination with the famous Pyrocide 175, and make savings as high as 3¢ per bomb in your costs while maintaining top quality, high volume of production and sales to increase your 1951 profits sharply.

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MOTH PROOFS FOR A YEAR OR MORE with one application. Now it's a "cinch" to protect woolens from *all* cloth eating insects. Simply spray with Moth-O-Blitz and all worries are over. You can't see it, but Moth-O-Blitz leaves a fine coating that kills moths and moth larvae and eggs on contact. Moth-O-Blitz leaves no objectionable odor or crystals — it's non-inflammable and will not harm delicate fabrics.

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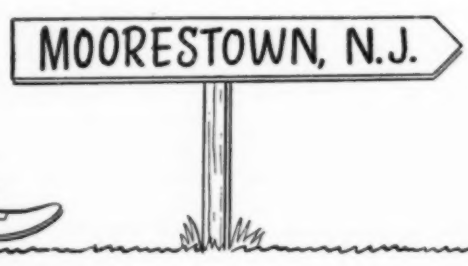

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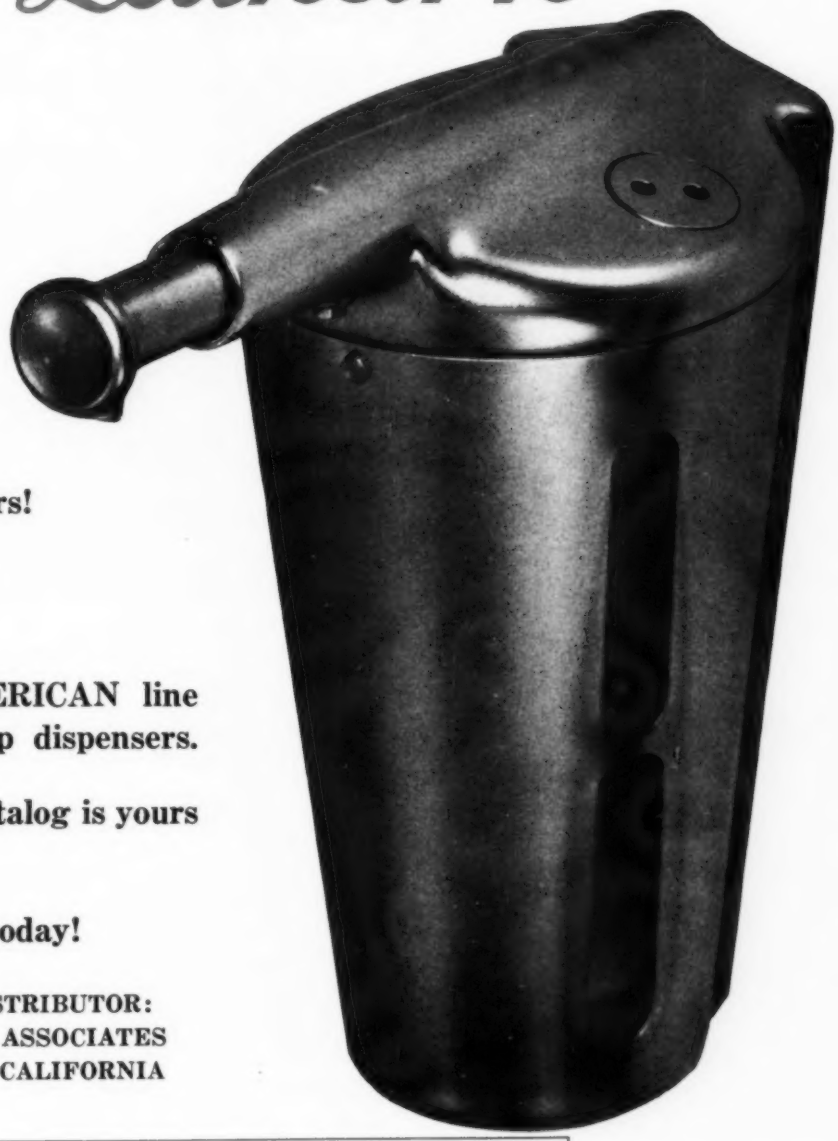

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Municipal Auditorium Cleveland, Ohio
June 3, 4, 5, 6, 1951

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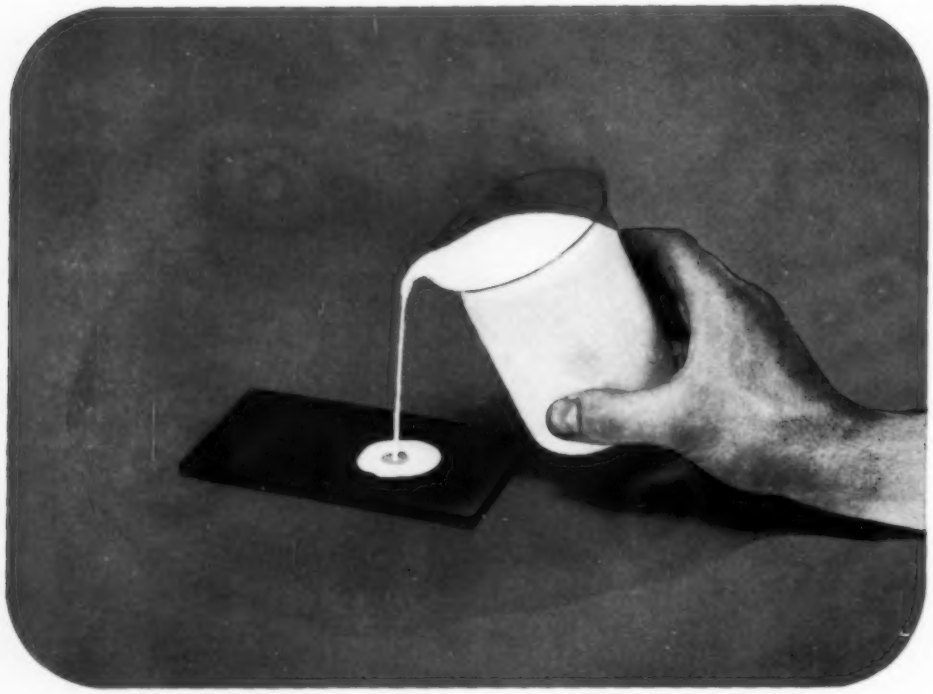

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Special Report

on One of the World's Most Useful Insecticides

ORTHO Lindane*

*Approved name for the "pure Gamma isomer" of Benzene Hexachloride, a most versatile insecticide.

Effective Multi-Purpose Uses of ORTHO Lindane:

For household pests — Kills insects three ways; by contact, vapor action and stomach poisoning. Effective control of flies, mosquitoes, lice, roaches, silverfish, bed bugs, ants, clothes moths, carpet beetles, spiders, etc. *ORTHO* Lindane in combination with DDT, Pentachlorophenol, other chlorophenols and petroleum oils gives effective termite control.

For farming and ranching — Controls flies and other insects in dairy barns — external animal parasites — mange mites, lice and ticks on sheep, cattle, hogs and horses — scab and sarcoptic mange.

For crop pest control — *ORTHO* Lindane is being widely used in control of many crop pests and with unprecedented success for the control of wireworms and other soil insects by seed treatment—also controls food and grain storage insect pests.

Check These ORTHO Lindane Advantages:

High Safety Factor — Approved by the USDA for lice and mange control on dairy cattle. Shows no contamination in milk when properly applied. Kills poultry insects by contact and does not taint eggs or meat when properly applied. Even used by dermatologists for human itch, lice and scabies. Not cumulative and practically odorless. Any taken in by a warm-blooded animal is eliminated.

Small Amounts Needed for Good Control—Only 1 to 2 lbs of *ORTHO* Lindane required, where up to 20 lbs. of DDT or Methoxychlor would be necessary.

The Story of ORTHO Lindane

This product was developed after years of *ORTHO* research. After its discovery, the makers of *ORTHO* products made hundreds of tests with "pure Gamma isomer" formulae. In July, 1949, the United States Department of Agriculture approved and named the 99% "pure Gamma isomer" Lindane. The name Lindane cannot be used for material not meeting all the properties specified for this chemical. Anyone who claims his product contains Lindane must see that it meets these very high purity standards. The name Lindane cannot be applied to low purity BHC. *ORTHO* Lindane in technical form (99%) is available from California Spray-Chemical Corporation. It is a white, granular, free-flowing material easily handled and readily subject to wettable powder, dust, and liquid formulations.

Specify ORTHO Lindane

Write for free informative booklet containing full information and technical data on the many uses of *ORTHO* Lindane. Address a card or letter to: California Spray-Chemical Corp., P.O. Box 129, Maryland Heights (St. Louis) Missouri.

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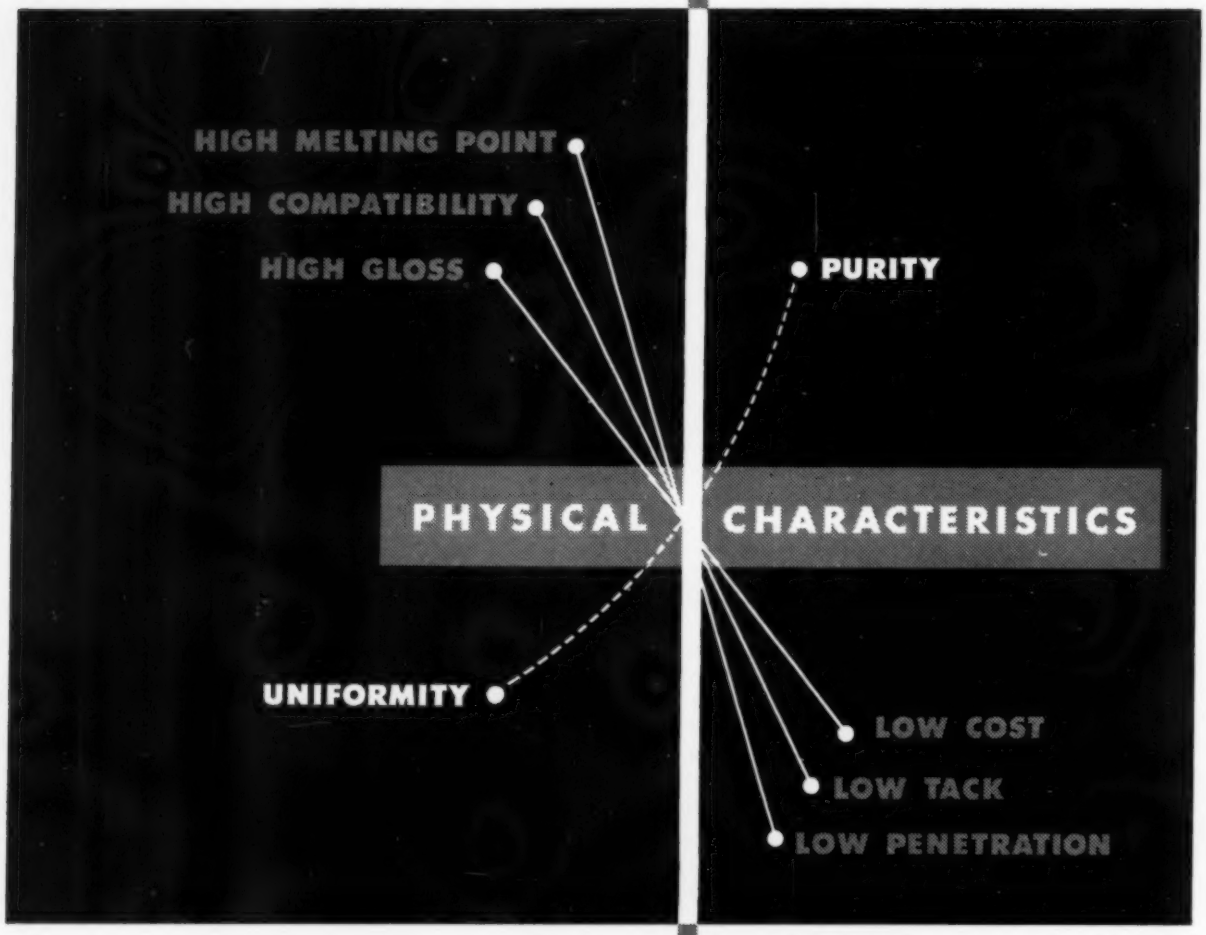
PETROLITE
MICROCRYSTALLINE WAXES

feature physical characteristics and specifications which have made them first choice by many leading polish manufacturers.



Petrolite

SPECIFICATIONS

PETROLITE CROWN	Melting Point °F.	Penetration with 100 gms.	Color N.P.A.	Acid Number	Sapon. Number
500	190/195	10 max.	2 to 2½	Nil	Nil
700	190/195	5 max.	2 to 2½	Nil	Nil
1035	195/200	2 max.	2 to 2½	Nil	Nil
★ 23	180/min.	4 to 6	4 to 5	20-25	55-65
★ 36	180/min.	5 to 7	5 to 6	30-35	75-85

★ EMULSIFIABLE WAXES

PETROLITE CORP., LTD. WAX DIVISION

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Excerpt from a paper presented at the 37th Annual Meeting of the Chemical Specialties Manufacturers Association in December, 1950, by Henry Fleisher, Bureau of Ships, Department of the Navy. This paper was included in the Official Proceedings, Reports and Addresses of this meeting, published in February, 1951, in a special issue of "Soap & Sanitary Chemicals."

ONYX BTC*... Alkyl Dimethyl Benzyl Ammonium Chloride...is one of the quaternaries on which the confidence expressed in this quotation is based.

Write for the BTC book for the story and technical facts on this dependable quaternary ammonium salt.

*Trade Mark Reg. U.S. Pat. Off.

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L. J. Oppenheimer, President — H. W. Hamilton, Secretary

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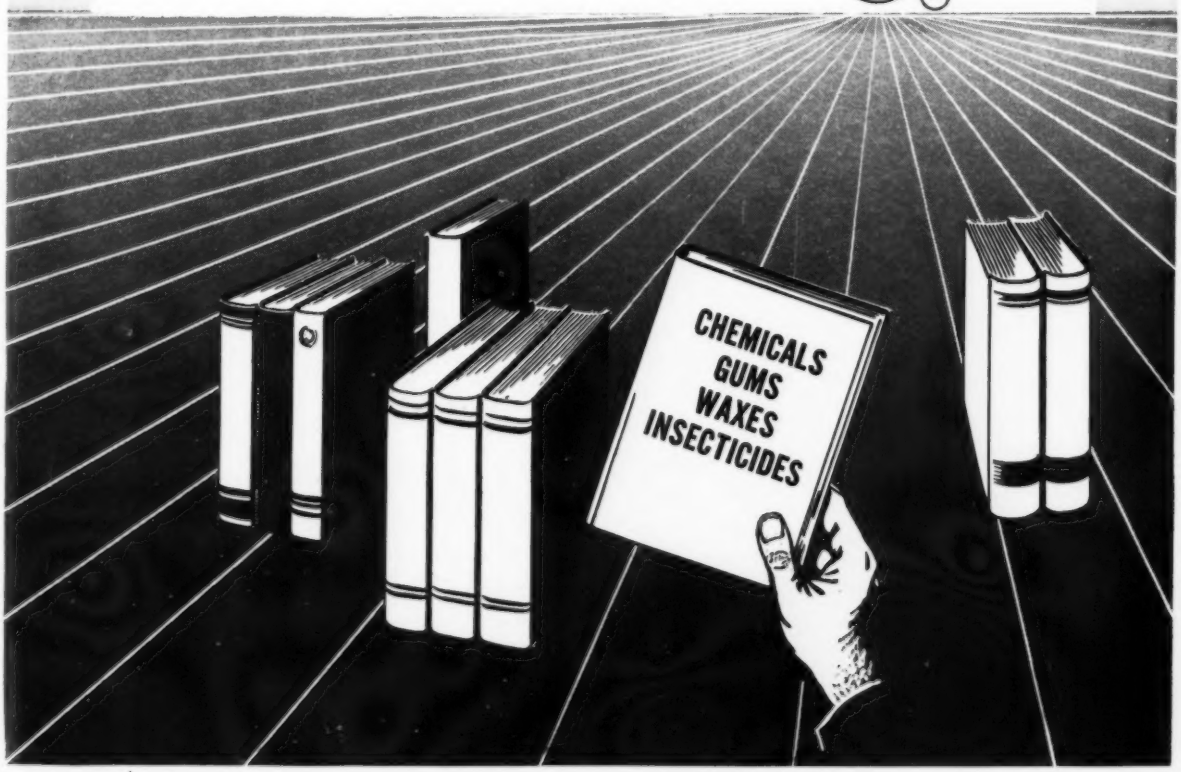

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Deluxe *S-D Cleaner will be popular with the trade because it aids in preventing the spread of disease germs, is easy to apply, odorless, attractive in color (opalescent), economical and safe. Absorbs obnoxious odors without leaving a masking odor.

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Deluxe *S-D Cleaner can be used *anywhere* and *any time* because it is *effective even in cold or hard water.* This feature is a great plus in sales appeal. For more details about Deluxe *S-D Cleaner write us immediately.

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CREATORS AND COMPOUNDERS OF THE BEST IN CLEANERS AND DISINFECTANTS FOR OVER 42 YEARS

SANITARY PRODUCTS
A SECTION OF SOAP

HOW much DDT goes into household and industrial insecticides each year? How much is needed at present for civilian household insect control? These questions are being batted around Washington as the powers that be at NPA decide what to give the "indoor" insecticide people in the clutch. We hear a figure of a million pounds mentioned. Our guess is that this is only about one-third of what will be needed for essential industrial insecticide products and the household spray and aerosol market. Out of a current 120,000,000 pound yearly DDT production, we believe that three million is not too much to allocate to civilian and important industrial needs.

SALES of sanitary products invariably rise and fall with the general tide of industrial activity. When plants are busy and running several shifts, more cleaners, floor waxes, hand soaps, disinfectants, and what not find use. Likewise, the reverse is true, although we have often wondered if it is necessary. Sanitary supply houses seem to take it for granted that their sales must go down when factories reduce operations. Frankly, we believe the evidence unearthed by the National Sanitary Supply Association would indicate that this is not altogether necessary and that the market potential is far greater than the average supply house suspects.

The answer to holding up sales in the face of an apparent downtrend in demand is not only more salesmen and more intensive sales promotion, but *better* selling. A well-trained, informed salesman is worth three fast talkers looking for "a quick buck." He not only sells more in the long run, but he makes repeat customers for the house. And this all implies better trained salesmen, a subject which NSSA has emphasized for several years, and still does. The days of the old-fashioned sanitary supply peddler are gone. Only a few firms in the industry still refuse to recognize this fact.

AFTER listening to a discussion of ways and means to test floor waxes for slip at the recent meeting of the Chemical Specialties Manufacturers Association at Chicago, we came away with the impression that among a dozen experts on the subject, one might be likely to find thirteen opinions. Just which machine or method simulates a person walking across a waxed floor? With or without rubber heels, worn or otherwise? On a dry or rainy day? Or do any two people walk alike, and which type of gait may induce the maximum slip?

We heard insurance experts, large industrial consumers, physicists and chemists bat this problem around. We heard a representative of one of the largest floor wax users in the world tell of their "practical" testing procedure,—no machines, no physics. And we heard the exact machine testing of slip discussed and argued by the experts. At the end, we came to one conclusion about which we were not too confused, and that is that the problem of measuring floor wax slip and interpreting the results in terms of walking people is as yet unsolved.

So, while the Federal Trade Commission holds hearings on proposed trade practice regulations for the floor wax industry, the scientists are beating their brains out trying to find just what is slippery and what is not, and how to measure it. Maybe FTC should hold its horses and give science a chance. And also avoid driving wax manufacturers completely nuts.

Al Candy, Jr., president

N.S.S.A. MEETING

SOME clarification of government regulations on prices and materials is expected to emerge from the discussion on these and other problems facing the industry at the 28th annual meeting of the National Sanitary Supply Association, at the Municipal Auditorium, Cleveland, June 3-6. In addition problems pertaining to selling of sanitary supplies will be covered and association business will be conducted at the organization's convention and trade show. At this, the first recent major trade show away from Chicago, the largest number of exhibitors in the history of the association are to display all types of sanitary chemicals and maintenance supplies and equipment. Pre-convention estimates were that a record crowd would visit the trade show, in which 150 companies are scheduled to participate.

The four-day meeting begins at 10:00 a.m. Sunday morning, June 3, when the exhibits at the Municipal Auditorium open and remain open

Program for 28th Annual Meeting N.S.S.A., Cleveland

SUNDAY, JUNE 3, 1951

Registration: 8 A.M. to 5 P.M.
Exhibition Hall open, 10 A.M. to 7 P.M.

MONDAY, JUNE 4, 1951

Registration: 8 A.M. to 8 P.M.
Exhibition Hall open 9 A.M. to 12:30 P.M., and from 4:30 P.M. (Exhibition Hall closed during business meeting—12:30 P.M. to 4:30 P.M. Exhibition Hall reopens immediately after meeting recesses to 10:00 P.M.)

12:45 P.M. Luncheon—Ballroom—Public Auditorium
1:45 P.M. Convention Meeting convened by National President, Al Candy, Jr.—Ballroom—Public Auditorium
1:50 P.M. Invocation—Major P. J. Hoffman
1:55 P.M. Address of Welcome, President, Al Candy, Jr.
2:05 P.M. Report of Executive Vice-President, Leo J. Kelly
2:25 P.M. Address of Vice-President, Searcy Ridge
2:35 P.M. Report of Treasurer, Walter O. Krebs
2:40 P.M. Report of Secretary of Board of Directors, Lacy E. Crain
2:45 P.M. Introduction of Regional Vice-Presidents and Directors
2:50 P.M. Appointment of Nomination Committee by President, Al Candy, Jr.
3:00 P.M. The Bettger Story of Sales Success
3:30 P.M. Report of Committee on amendments to Constitution and By-Laws
4:30 P.M. Announcements—
Recess to Tuesday Luncheon, June 4th, 1951, 12:45 P. M., Ballroom—Public Auditorium
Exhibit Hall opens immediately upon recess

TUESDAY, JUNE 5, 1951

Exhibition Hall open 9 A.M. to 12:30 P.M. (Exhibition Hall closed during business meeting—12:30 P.M. and balance of this day. Banquet at 7 P.M.)

12:45 P.M. Luncheon—Ballroom—Public Auditorium
1:45 P.M. Convention Meeting Convenes. President, Al Candy, Jr., presiding
Report of Nominating Committee
Election of Officers
Introduction of New Officers
2:00 P.M. Questions and Answers on Price and Material Regulations
Government Price Specialists
Government National Production Authority Specialists—names to be announced
2:45 P.M. Distributor Problem Forum—Searcy Ridge, Gateway Chemical Co., Moderator.
Attempts will be made to solve distributors problems through audience participation.
3:15 P.M. "Approach to More Effective Selling." H. P. Sharer, Manager, Field Training, U. S. Rubber Co.
4:15 P.M. Address—E. B. Buchanan—Commissioner, Cleveland Health Department
4:45 P.M. Adjourn to prepare for Banquet.
7:00 P.M. Annual Banquet and Super Floor Show—*Rainbow Room, Carter Hotel.*

WEDNESDAY, JUNE 6, 1951

Exhibition Hall open 9 A.M. to 2:30 P.M.
There will not be a general meeting Wednesday. Members are urged to complete their business with all exhibitors as final closing of all exhibits will take place at 3 P.M.

Searcy Ridge, vice-president; Walter O. Krebs, treasurer; Lacy E. Crain, secretary; Leo B. Mocberry, West vice-president.

IN CLEVELAND...

Leo J. Kelly, executive vice-pres.

until 7:00 p.m. On that day, too, Sanitation Week, as proclaimed by Thomas A. Burke, Mayor of Cleveland, begins. A series of special events to celebrate the week, which has been designated as Sanitation Week in connection with the meeting of the National Sanitary Supply Association, will be held.

The meeting of the N.S.S.A. is officially convened following luncheon, Monday, June 4, the morning of which exhibits are open from 9:00 to 12:30 p.m. Luncheon is held in the ballroom of the Auditorium, where all events, except the banquet are to be held. Exhibits reopen following the adjournment of the association meeting. At the meeting reports of the officers will be given and a nominating committee is to be appointed. A talk on selling, "The Bettger Story of Sales Success," is also slated for June 4. The speaker is the author of a book on selling and is a well-known authority on the subject. At the association business meeting an amendment to the organization's constitution and by-laws concerning the definition of the qualifications for membership in the association is to be considered and voted on.

Following adjournment of the business meeting, exhibits reopen until 10:00 p.m. A similar schedule is set for Tuesday, June 5, except that exhibits close at 12:30 p.m. for the remainder of the day, which is to be taken up with a general discussion session following luncheon. At the meeting, the report of the nominating committee will be read and the election and introduction of new officers takes place. A question and answer period covering recent government price and material regulations follows. A panel discussion of distributor problems, for which Searcy Ridge of Gateway Chemical Co., Kansas City, and N.S.S.A. vice-president is to be moderator, is the next order of business. Following the distribution panel, H. P. Sharer, manager of field training for U. S. Rubber Co., New York, will discuss

N.S.S.A. CONVENTION COMMITTEES

EXHIBITION COMMITTEE

L. E. Emsheimer, Hospital Specialty Co. ..... Cleveland
H. J. Lehman, American Textile Products Co. ..... Cleveland
J. D. Conway, Certified Chemical & Equipment Co. ..... Cleveland
S. A. Armstrong, Du-Fold Mfg. Co. ..... Cleveland

PUBLICITY COMMITTEE

James Nelson, Pest Control Magazine ..... Cleveland
Robert Apple, Sanitary Maintenance Magazine ..... Milwaukee
James Cawley, Modern Sanitation Magazine ..... New York
Ira P. MacNair, Soap & Sanitary Chemicals Magazine ..... New York
C. L. Staples, Institutions Magazine ..... Chicago

COORDINATORS—"SANITATION WEEK IN CLEVELAND"

James Nelson, Pest Control Magazine ..... Cleveland
Malcolm Zucker, State Chemical Mfg. Co. ..... Cleveland

REGISTRATION COMMITTEE

John B. Kane, Braham Laboratories, Inc. ..... Cleveland
Harvey Smith, Chemical Supply Co. ..... Cleveland
Jeff Ganger, Continental Chemical Co. ..... Cleveland
J. W. Schiffer, Federal Sanitation Co. ..... Cleveland

PROGRAM COMMITTEE

B. J. Tepper, Government Chemical Products Co. ..... Cleveland
Charles Zahn, Lindsey Sanitation Co. ..... Cleveland
J. H. Zucker, State Chemical Mfg. Co. ..... Cleveland
Robert Albers, Hadco Corp. ..... Cleveland
C. W. Beck, Stevens Grease & Oil Co. ..... Cleveland

es H. Wheeler, Sr. Central vice-president; John Walsh, South vice-president; Sidney P. Solomonson, Jr., Southwest vice-president; Jacob Kahn, East vice-president.

List of N.S.S.A. Exhibitors

Firm Name	Booth Number
Advance Machine Co., Minneapolis	19-20
Airkem, Inc., New York	92
American Dispenser Co., New York	72
American Sponge & Chamois Co., New York	29
American Standard Mfg. Co., Chicago	144
The American Textile Products Co., Cleveland	157
Antiseptol Co., Chicago	149
Arcade Industries, Inc., Chicago	65
S. M. Arnold, Inc., St. Louis	101
Atlantic Stamping Co., Rochester, N. Y.	154
Atlas Products Co., Chicago	90
Baird & McGuire, Inc., Holbrook, Mass.	179
Beckley-Cardy Co., Chicago	42
Bobrick Mfg. Corp., Los Angeles	191
Bostwick Laboratories, Inc., Connecticut Chemical Research Corp., Bridgeport, Conn.	130
Breuer Electric Mfg. Co., Chicago	64-65
The Bromm Chemical Co., Evansville, Ind.	54
Brooklyn Fibre Broom Co., Brooklyn	10
Buckingham Wax Co., Long Island City, N. Y.	190
Burcott Mills, Chicago	87
Candy & Co., Chicago	14-15-16
The Certified Chemical & Equipment Co., Cleveland	76
Chase Products Co., Maywood, Ill.	17
Chemical Service of Baltimore, Baltimore	155-156
Clarke Sanding Machine Co., Muskegon, Mich.	78-79
Continental Soap Corp., Chicago	181
Colgate-Palmolive-Peet Co., Jersey City, N. J.	43
Dash Metal Products Co., Brooklyn	145
The Davies-Young Soap Co., Dayton, O.	34
Doyle Vacuum Cleaner Co., Grand Rapids, Mich.	150-151
Drueding Brothers Co., Philadelphia	178
The Du Fold Mfg. Co., Cleveland	159
E. I. du Pont de Nemours & Co., Wilmington, Del.	5
Economy Mop Wringer Co., Chicago	137
Empire Brushes, Inc., Port Chester, N. Y.	40-41
Essential Chemicals Co., Milwaukee	48
Ex Cell Products, Chicago	61
Federal Varnish Co., Chicago	44-45
Finnell System, Inc., Elkhart, Ind.	146-147
Flour City Brush Co., Minneapolis	176-177
Franklin Metal Products Co., Chicago	46
Franklin Research Co., Philadelphia	91
Fuld Bros., Inc., Baltimore	106-107
Geerpres Wringer, Inc., Muskegon, Mich.	52
General Floorcraft, Inc., New York	161
Golden Star Polish Mfg. Co., Kansas City, Mo.	123
Greenview Mfg. Co., Chicago	105
Harley Soap Co., Philadelphia	158
Warren Haviland Corp., St. Louis	187
Herz Mfg. Corp., New York	33
The Hewitt Soap Co., Dayton, O.	174
Hild Floor Machine Co., Chicago	12-13
Holt Mfg. Co., Oakland, Calif.	35
Hospital Specialty Co., Cleveland	70
H. D. Hudson Mfg. Co., Chicago	80
Hysan Products Co., Chicago	112-113
Illinois Duster & Brush Co., Chicago	127
The Imperial Brass Mfg. Co., Chicago	108
Institutions Magazine, Chicago	125
International Metal Polish Co., Indianapolis, Ind.	86
S. C. Johnson & Son, Inc., Racine, Wis.	50-51
The Kent Co., Inc., Rome, N. Y.	152-153
Kleenette Mfg. Co., Chicago	115
Klenzade Products, Inc., Beloit, Wis.	88-89
Kurly Kate Corp., Chicago	104
Laitner Brush Co., Detroit	188-189
S. C. Lawlor Co., Chicago	27
The F. H. Lawson Co., Cincinnati	84-85
Lily-Tulip Cup Corp., New York	3
Lincoln-Schlueter Floor Machine Co., 1250 W. Van Buren St., Chicago 7, Ill.	185
Market Forge Co., Everett, Mass.	128
W. J. McElmoyl Co., Groveville, N. J.	32
Frank Miller & Sons, Inc., Chicago	4
Mione Mfg. Co., Collingdale, Pa.	119
Modern Mfg. Co., Pasadena, Calif.	129
Modern Sanitation Magazine, New York	67
Moore Brothers Co., New York	184
Moran Brothers, Inc., New Haven, Conn.	180
Multi-Clean Products, Inc., St. Paul, Minn.	37-38-39
National Brush Co., Aurora, Ill.	117
National Super Service Co., Toledo	100
O-I-Dri Corp. of America, Chicago	111
Ox Fibre Brush Co., Frederick, Md.	82-83
G. H. Packwood Mfg. Co., St. Louis	110
Palmer Fixture Co., Waukesha, Wis.	11
Paper Container Mfg. Co., Chicago	6
Parker Sweeper Co., Springfield, O.	109
Parlee Co., Indianapolis, Ind.	186
Peck's Products Co., St. Louis	1-2
Perfo Mat & Rubber Co., New York	114
W. M. Pettett Co., Tulsa, Okla.	31
Piatt & Smillie Chemicals, Inc., St. Louis	23-24-25-26
Piedmont Mop Co., Charlotte, N. C.	81
Pollock Corp., Dayton, Ohio	9
Ponsell Floor Machine Co., New York	140-141
Professional Window Cleaners Supply Co., Detroit	74
Protecto Products Co., Pomona, Calif.	28
Pullman Sales Corp., Boston	124
Ransom Brush Co., Chicago	116
The Regina Corp., Rahway, N. J.	62-63
Rex-Cleanwall Corp., Brazil, Ind.	102-103
Rochester Can Co., Rochester, N. Y.	99
Rubon Woodfinishing & Prods. Co., Kansas City, Mo.	120-121
Sanatex Corp., Chicago	73
Sanitary Maintenance Magazine, Milwaukee	77
I. Schneid, Inc., Atlanta, Ga.	53
Schroeder & Tremayne, Inc., St. Louis	142
Shore Metal Products Co., Los Angeles	71
Silver Brush Works, Chicago	47
Silver Creek Precision Corp., Silver Creek, N. Y.	165
Smyth Mfg. Co., Newark, O.	36
Soap & Sanitary Chemicals Magazine, New York	160
Solvay Sales Division, New York	7-8
Standard Distributors, St. Louis, Mo.	138
Steccone Products Co., Oakland, Calif.	148
Sterwin Chemicals Inc., New York	163
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Looking ahead in

Sanitary Supply Selling . . .

By Al Candy, Jr.

President, National Sanitary Supply Assn.

OVER the past ten years, there has been a marked growth in consciousness of improved sanitation. This has been particularly noticeable in the case of institutions, industry, and the public generally. New and higher standards of sanitation have developed and continue to develop. Through the efforts of the National Sanitary Supply Association, both manufacturers and distributors of sanitary supplies have been alerted to this ever expanding market for their products. A recent survey conducted by the Association among its distributor members, brought forth, for the first time, the tremendous market now open for our products. Manufacturers accordingly have set up larger production facilities giving distributors the assurance that new products, increased production of the old standby products, and continued research will all be available in abundance (government regulations permitting) so that the distributor's big job for future development and profits will undoubtedly continue to be one of sales expansion.

Aware of the trend now developing, the National Sanitary Supply Association has completed another survey, based on which the Association is now preparing for early release, a step by step program that will enable members to (1), recruit prospective salesmen, (2), select salesmen who can succeed in this particular type of business, (3), properly train these selected men so that they will be able to sell successfully. By following this program, our members will eliminate costly mistakes, which in the past plagued them in their efforts to build successful sales forces. We have, through research, now found a series of standards and norms that is sure to take much of the guesswork from the ever continuing job of hiring and training sanitary supply salesmen.

Since 1945, the National Sanitary Supply Association has taken the lead in developing sales training for its members. This year, an important contribution toward better sales training and successful sales procedures was made by N. S. S. A. This book entitled, "Survey and Sell" received much acclaim. Some 4,000 have already been placed in salesmen's hands. Member distributor firms have told us, "Survey and Sell" has "helped us increase sales and hold our salesmen." Others tell us they use this book as a guide in all their sales meetings.

Continuing the emphasis on sales, our national convention at Cleveland, June 3-6, brings "Doc" Sharrer, before our members. Mr. Sharrer is probably one of the best sales speakers in the country today. His message is sure to aid in developing better salesmen. Also on this convention program is the dramatization of the Bettger Story. This features the sales facts which appeared in his book, "The Bettger Story or How I Raised Myself from Failure to Success in Selling." This book, one of the few best sellers in sales type books, contains much that our members can use profitably to develop better salesmen.

Salesmen must have a good "climate" in which to work. Again the National Sanitary Supply Association, through its national advertising has been developing consumer acceptance at a high level. The Association's sound and color film, "The Cleaning and Maintenance of Soft Floors" has added much prestige to our membership and has proved itself a fine sales training tool and a direct aid to increased sales.

Probably no greater tribute to the advancement made by our members in the field of sanitation and sanitary supply selling, could be paid than that incorporated in the proclamation made by the Honorable Thomas A. Burke, Mayor of Cleveland, who has set aside the week of June 3 and declared it "Sanitation Week."

the subject, "Approach to More Effective Selling." The concluding feature of the session is to be a discussion of sanitation by E. B. Buchanan, Commissioner of the Cleveland Health Department. The banquet and floor show, scheduled for Tuesday evening, June 5, will be held at the Rainbow Room of the Carter Hotel.

The final day of the meeting, June 6, exhibits will be open from 9:00 a.m. until 2:30 p.m. They are to be closed at 3:00 p.m. There is to be no general meeting on this day.

Although most of the events at this year's convention and trade show are to be staged at the Cleveland Auditorium, the headquarters hotel for the affair is the Hollenden Hotel, which is about two and one-half blocks from the Auditorium.

Three recent films on various aspects of sanitation are to be shown during the convention and trade show. Although the exhibits are not open to the public, the films, which are being shown in the Auditorium's "Little Theatre," may be seen by the public. They include: "Habits and Characteristics of the Norway Rat"; "Dishwasher Named Red" and "The Housefly".

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Fred H. Haggerson, president of Union Carbide & Carbon Corp., New York, since 1944, was recently elected in addition, chairman of the board of directors. He has been with the corporation for over 30 years.

MAINTENANCE C

SELDOM does the superintendent of building maintenance come in direct contact with the manufacturer of the chemical specialties used in his field. Unless, the maintenance superintendent considers as manufacturers the sanitary supply houses through which maintenance supplies are customarily purchased, he rarely contacts the manufacturer of the product as such.

For the purpose of this discussion, I will consider as the manufacturer the agency directly supplying our sanitary chemical materials. Since most maintenance products are presented to the building management through the supply jobbers, whether under their private label or under the manufacturer's brand name, it might also be helpful if I were to give some of my impressions of the sanitary supply salesmen whom I meet in my everyday work.

More often than not, sales representatives calling on building superintendents, — and their number is legion, — have only one thing in mind. A fast sale of their particular products regardless of what they are or their usefulness or adaptability to the solution of the particular problems facing the maintenance executive, appears to be their sole object.

High pressure sales methods are all too frequently used to hide a lack of real knowledge of the material being sold, its proper applications, and possible dangers to property inherent in its use. Some salesmen display almost a complete lack of knowledge in this latter respect of any technical phases of the products they offer.

In this regard, I am reminded of a colleague of mine who very aptly said in an article recently published:* "It might be better to ignore the dirt almost completely rather than to employ improper materials that might injure the surfaces to be cleaned. Once that surface is damaged, your cleaning problem begins to get ahead of you and your costs will climb."

Why do I bring up this point? Because I believe it is generally accepted by manufacturers and building superintendents that sanitary supply salesmen are the manufacturer's closest contact with the Consumer's problems.

It would seem to me that it is the responsibility of the chemical specialty manufacturer to determine to sell his materials through a select number of janitor supply houses. He should make sure his distributors have the men who are both willing and able to learn something of the technical aspects of the materials they sell, and particularly the adaptability of the products to specific jobs.

For my part, it is this group of men to whom I give my attention and time, and invariably, my business. I have never refused to give a hearing to a man I feel knows the materials he is selling and what they will do for me.

I should again like to quote from the article I mentioned above: "It would be a lot easier for us (meaning building superintendents) if sanitary supply salesmen knew their products better and understood the effect they have on surfaces. Few salesmen, however, know much on that score. A lot of sanitary supplies are sold simply by high pressure salesmanship. We buyers have to build resistance to their sales talk, else we would get into trouble."

* Soap & Sanitary Chemicals, December, 1950. "Sanitary Supplies for the Chicago Market."

CHEMICALS...

What the building superintendent wants and expects to get from the sanitary chemical manufacturer

By Thomas R. M. Coull†
Board of Trade Bldg., Chicago

I quote these remarks not only because I have a high regard for their truth, but also to indicate to you that they are not the opinion of one man.

From time to time sanitary supply manufacturers present new maintenance materials to the consuming public. Invariably these products are presented to us accompanied by words of extravagant praise: "The new cleaning material will do all things to all surfaces by merely pouring it on and letting it evaporate." Or, "the new wax will cover the floor with a protective film which is hard as rock, lustrous as a diamond, and as anti-slip as the sand on the sea shore." Whether or not such claims are condoned by you, I do not know, — but I would suspect not.

I believe I can speak for my colleagues in the building maintenance field when I say that we would much prefer that when new products are first presented to us we be given the plain and unvarnished facts about them. Because, in any event, demonstrations will bring out the virtues or deficiencies of the products. After we investigate a number of products which fail to live up to the claims originally made for them, there is a tendency on the part of both the maintenance superintendent and his crews to treat with distrust both the person making the claims and any other products he might wish to sell us now or in the future.

Manufacturers may ask how we should be approached when a new product has been developed. I can only tell you how I am best impressed. When a salesman comes to me and says that he has something new and that thus far laboratory and limited practical tests have shown thus and such characteristics, and that based on such experience, he has reason to believe that the new material can result in a better job in my building, invariably I will invite him to work with my night crew in a limited but typical area. In this way I can obtain the unbiased opinion of my own crew, based on conditions in my own building. In most instances, it is this approach that has been most successful in bringing new developments to me for actual consideration.

It is generally accepted that of the total maintenance cost, 90% represents wages and only 10% material. It is this smaller percentage figure that manufacturers are interested in directly, but it is the larger figure — the 90% for wages to which I, as a building superintendent, must devote my major attention. There is obviously a direct relationship between these two elements of cost. It is my job to see that labor is most efficiently used. One aspect of this duty is to be sure that my crews have the best available tools — which, of course, includes the best sanitary chemical materials.

I must be on the lookout constantly for the cleaning materials which can be used to accomplish my work with a minimum expenditure of effort — or of that 90% figure I mentioned before. I must be sure that the floor wax I use has that much-to-be-desired balance of lustre, safety and durability — and I stress durability.

Likewise, with my other tools, I must be sure that the major element of maintenance cost — that 90% for wages — is assured of peak performance which can be attained only by the use of the highest grade of materials.

It is here that the chemical manufacturer enters the picture. We must look to him to furnish materials based on the knowledge that wages we pay vary in relation to the quality of maintenance products. As the quality of sanitation products goes up, maintenance costs go down; and conversely, as the quality of sanitary products goes down, maintenance costs go up. Keeping in mind the proportions involved, that is, 90% for wages and 10% for material, the heavy responsibility the manufacturer carries can be appreciated.

THE last question to be asked then, when entering into a discussion with a salesman involving maintenance materials, is price. Price is the first question only in the over-all picture. Insofar as material costs are concerned, the prime question is — what effect does the material price have on total maintenance cost?

It is unfortunate for chemical specialty manufacturers that the price factor is so often considered by the consumer in its narrow sense. I realize that it is impractical for you to manufacture only the highest grade of material, since you must cater as well to those who buy only on the basis of price in its most limited sense.

I would guess by the approach of the average salesmen that selling on the basis of price alone is the technique which produces the least sales resistance. It may be that advertising

†Address before Chem. Spec. Mfrs. Assn., Chicago, May 1, 1951.

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could be used more widely to indicate the effect of inferior materials in jacking up final maintenance costs — educational advertising of this sort, I believe, would be a service both to the seller and the buyer. I might point to another form of educational advertising which chemical specialty manufacturers as a group might consider. When a product is presented for our consideration, frequently our first thought is, will this type of material have any ill effects on the surfaces on which it is meant to be used?

There should be more product information available for use as a guide to the non-chemist to determine what materials are suitable for general maintenance.

While it is true that some flooring companies have formed associations which publish lists of approved materials by trade names, an organization such as the C.S.M.A. could perform a most valuable service to the consumer by issuing information descriptive of the physical characteristics of the various types of flooring, and in general terms what chemical products should be used in their maintenance, — and possibly, more important than that, what products should be avoided.

In preparing this discussion, I assumed that sanitary chemical manufacturers are not only providing maintenance operators with the best materials produced under modern chemical manufacturing techniques, but also that they are constantly seeking to improve existing materials and methods. This being so, then what more can we superintendents expect of the manufacturer?

This is the question which formed the background of my thinking in the development of this paper; and it is the answer to this question which forms the summary of my remarks:

1. Let the sanitary supply jobbing companies represent manufacturers in the building maintenance field, since it is this group which is, or should have the sanitary chemical firm's closest contact with our problems and needs.
2. Choose this representative with care, keeping in mind that he should be well acquainted with the technical aspects of chemical specialty materials, and their adaptability to our specific problems.
3. Keep us informed of new developments, and present new materials in their true perspective, pointing out both advantages and disadvantages if any.
4. Keep in mind that wages are by far the greatest element of maintenance cost, and develop sanitary chemical products with this fact foremost in mind.
5. Furnish the consuming public, through supply houses with technical papers descriptive of the characteristics of chemical specialty products. These papers should be written from the standpoint of types of products rather than particular brands.

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New du Pont Research Unit

The opening of its new $30,000,000 Experimental Station addition by E. I. du Pont de Nemours & Co., Wilmington, Del., May 10, brought together a group of some 200 leading industrial and university scientists for its dedication. The recently completed expansion makes the Station one of the largest research establishments in American industry, housing nearly half of the company's research personnel. Among the speakers at the dinner following the dedication day inspection tour were Dr. James B. Conant, president of Harvard University, and Crawford H. Greenewalt, president of du Pont.

The new Station area occupies high ground, overlooking the older area of the Station along Brandywine Creek, a short distance downstream from where the company's first plant was built nearly 150 years ago. The total new floor area is 630,000 square feet. It is provided in the 19 new buildings, nine of them laboratory buildings. Most of the new structures stand in a freshly landscaped area of 57 acres. In equipment and arrangement, the laboratory buildings embody many improvements. The basic unit is a two-man laboratory room 25 feet long and 19 feet wide. The Station now employs about 800 technically trained research workers representing a wide range of sciences. In addition to the new buildings, one of which is located in the older Station area, two of the older laboratory buildings were enlarged substantially during the expansion, and a former clubhouse converted into an employees' cafeteria.

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Allethrin Plant Planned

U. S. Industrial Chemicals, Inc., New York, plans to construct a plant for the production of allethrin, it was recently announced by W. P. Marsh, Jr., president. Construction is now underway on the new plant, which is located in Baltimore, and completion is expected by late 1952.

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Widen Antiseptic Output

Low cost, volume production of parachlorometaxylenol (PCMX) non-toxic germicide, was announced recently by Ottawa Chemical Co., Toledo. "Ottasept", the Ottawa brand name for PCMX, has been added to the field of safe germicides as a result of German and British experience with the compound over a period of 20 years, according to the maker. Recently introduced in the U. S., PCMX has been used in fungicides and in a trademarked general antiseptic. Its properties aside from non-toxicity, include easy miscibility with most bases, as well as non-staining, non-irritating and odorless characteristics in most solutions or mixtures. The germicide is said to have potential use in soaps, shaving creams, toothpastes, janitor supplies, cosmetics, etc., as well as mass antisepsis such as required by the dairy, beverage and dry cleaning industries. It is used widely as a general antiseptic in Great Britain under the proprietary name "Dettol".

"Ottasept" will be produced in quantity by Ottawa Chemical Co. for domestic as well as foreign use. Stability of the compound allows storage for long periods and the firm will produce for a number of fields. Literature and technical data on the product are available by writing the firm at 819 Hamilton St., Toledo.

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June 3, 4, 5 & 6 at Cleveland Auditorium

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Where Are We Going With

FLY RESISTANCE?

By George C. Decker and W. N. Bruce*

THE existence of wild strains of flies highly resistant to several insecticides can no longer be questioned by even the most dubious of skeptics. There is, however, much difference of opinion as to the nature or character of fly resistance to or tolerance for insecticides. No doubt the current confusion is justifiable and at least in part explainable. All too frequently investigators have inadvertently assumed that resistance was due to a single or at least a small group of inheritable characters. Such apparently is not the case, and there seems to be no good reason why we should expect that it would be true.

It seems fully possible, if not indeed probable, that tolerance for insecticide may be extremely variable and induced by the independent or joint action of many independent characters. Let us reflect for a moment on what has occurred in other fields of genetics. From one original strain of dogs we have developed many breeds. They vary in size from the small lap dogs to the massive breeds, such as the St. Bernard. They vary in coat from the hairless to the extremely heavy coated. They vary in color, body proportions, instinct, and habits. In the development of present day corn hybrids the plant breeder has found that corn yield is not determined by any single factor but is in reality the composite and expression of many independent inheritable characters. Why, then, should we expect house fly resistance to chemicals to be due to a single or small group of related factors? Investigators to date have tended to make some points of the variance between the results they obtained and those obtained by others working in the same field without giving adequate consideration to the fact that the genetic complex of the two or more strains of flies under consideration might be quite different.

In our laboratories at Urbana we have, I believe, successfully demonstrated that in some cases resistance is due to the flies' ability to metabolize almost immediately or at least decompose DDT into some harmless components. At the same time we have other highly resistant strains in which the DDT is not immediately decomposed and in which sizable amounts of DDT can be found in the blood and body tissues of the living flies. There appear to be other strains in which resistance or tolerance may be due largely to varied morphological characters or variations in habit rather than to chemical factors. A report from Basle, Switzerland, indicates that some of the difference between two strains under study may have been due to a difference in the relative size and cuticular thickness of the pulvillus. On at least one farm we observed a strain of house flies that was surviving DDT treatment because the flies had adopted the stable fly habit of alighting on a surface and standing still. They were exposed much less to the DDT deposits than the normal flies that moved about freely, and survived through escape of excessive exposure rather than through the phenomenon of chemical resistance. The nature and character of resistance or tolerance in various so-called resistant strains, therefore, may vary greatly and likewise we may expect equal variations in the response of the various strains to certain laboratory tests.

While unquestionably many factors are involved in the development of house fly resistance to insecticides, the work under way at Urbana would seem to indicate that in Illinois, at least, the chemical phenomena are perhaps most important. In most instances resistant strains developed in the laboratory and in the field have demonstrated a remarkable ability to tolerate large quantities of DDT and/or other insecticidal chemicals when applied topically to the prothorax or other parts of the body. Likewise, most of the DDT-resistant strains observed seem to possess the ability to metabolize or degrade DDT quickly. In the absence of suitable chemical methods, for the time being we can only assume there is a parallel or similar action in the case of the other insecticides.

Rightly or wrongly, for the remainder of the present discussion, we shall assume that chemical phenomena are the most important factors in the development of fly resistance to insecticides.

If morphological or physiological characters or characteristics of the adults were highly important, larval exposure to a chemical might have little or no important bearing on the response of the adult to the same chemical. On the other hand, the chemical responses of the larvae may parallel those of the adult, in which

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*Paper presented before 37th mid-year meeting Chemical Specialties Manufacturers Assn., Chicago, April 30.

Paper is based on investigation supported in part by a research grant from the National Institute of Health, Public Health Service (R. G. No. 2623).

Mr. Decker is entomologist and head of the section of economic entomology, Illinois Natural History Survey and Illinois Agricultural Experiment Station. Mr. Bruce is assistant entomologist at the Illinois Natural History Survey.

BOOTHS 102-103

NATIONAL SANITARY SUPPLY ASSOCIATION CONVENTION

HOLLENDEN HOTEL, CLEVELAND
JUNE 1951

SEVERAL SENSATIONAL NEW DEVELOPMENTS IN EQUIPMENT

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Rex Super-Clensex
Rex Cleaner
Rex Lather (for rugs)
Rex Rug Shampoo
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TABLE 1. LD-50s for DDT applied topically to adults of successive generations of flies. Results expressed in micrograms per fly.

	Generation				
Extent of treatment	F_1	F_3	F_6	F_9	F_{10}
Cage—adults	0.33	0.34	0.38	1.22	1.65
Media—larva	0.33	0.41	3.30	14.4	>100
Media and cage	0.32	0.36	2.80	21.6	>100
	F_1	F_3	F_6	F_9	F_{12}
Cage—adults	0.33	0.43	0.66	0.83	1.20
Media and cage	0.31	0.49	1.65	72.0	>100

case the exposure of both the larval and adult stages of an insect to the same chemical would conceivably double or accelerate even more the development of a given response. Apparently, this is just what is taking place. In fact, it appears that the contamination of the media in which the larvae develop is largely responsible for the rapid development of insecticide resistance in house flies.

In general, the treatment of adult flies alone has not resulted in the rapid development of a high degree of fly resistance to or tolerance for DDT or any of the other insecticides. On the other hand, the treatment of the larvae's breeding media alone or in conjunction with adult exposure has greatly intensified natural selection and inbreeding, thereby hastening the production of strains of flies resistant to several chemicals. Obviously, to produce a resistant strain of flies in the laboratory or in nature, the chemical exposure must not be completely lethal, otherwise there will be no survivors and the population is eliminated. Now let us see what happened when 80 p.p.m. of DDT was added to N.A.I.D.M. media and adults were exposed in treated cages, Table 1. It is noteworthy that little change was observed in the first three generations but that by the sixth generation the flies from cultures in which the breeding media was treated had developed a degree of resistance five to ten times that of normal flies. In ten generations the resistance in these strains was over 300 times normal, whereas the flies from cultures receiving adult exposure only still showed only nominal resistance, four to five times normal.

Contamination Aided Resistance

THERE is considerable evidence to indicate that the contamination of breeding media likewise contributed to the development of DDT resistance under conditions prevailing in the field. DDT resistance appeared first and was intensified most rapidly on farms where sanitation was not too good and where spraying operations resulted in serious contamination of the manure and similar breeding media. The average insecticide application on a ceiling area will usually result in about 50 per cent of the toxicant finding its way to the floor through drift and dripping. The floor often appears as wet as the ceiling. Evident symptoms of insecticide poisoning soon after emergence and a high rate of mortality among adult flies reared from field-collected pupae have frequently indicated the possible storage of the toxicant in the larval stage. In one instance these effects were evident for more than three months after a single residual application of a 0.3 per cent dieldrin spray.

In a previous paper the writers have shown that the process of segregation or the initial establishment of resistance is slow, but when resistance is once established, its intensification is rapid and proceeds to equilibrium with the toxicant found in the strain's environment. It was also shown that if no outbreeding was permitted, resistant strains of flies would, in the complete absence of further exposure to the chemical, retain their resistance at a constant level for as many as thirty generations. These points, having been established, will not be pursued further at this time.

Let us now consider to what extent the acquisition of tolerance for one chemical may induce or predispose

TABLE 2

Twenty-four hour LD-50's for several insecticides (in micrograms per fly) when applied topically to the several resistant strains of house files developed in the laboratory.

Strains	*Generations exposure of adults and larvae to the insecticide to reach a maximum level of resistance* — *Generations*	*Insecticide*	*Origin of strain*	*Insecticide* — *DDT*	*Methoxychlor*	*Lindane*	*Chlordane*	*Dieldrin*	*10:1 mixture of piperonyl butoxide and pyrethrins*	*Paraoxon*
Laboratory susceptible			N.A.I.D.M.	0.33	0.99	0.03	0.12	0.019	1.13	0.045
Pyro I	30	Pyrenone	lab.	0.68	1.10	0.16	0.32	0.026	>23.20	0.07
Para-oxon	40+	Para-oxon	lab.	0.45	1.00	0.05	0.15	0.02	1.22	>0.51
DDT I	18	DDT	lab.	260.5	14.40	0.11	0.24	0.048	1.77	0.07
DDT III	?	DDT	field	26.1	8.2	0.04	0.09	0.016	1.16	—
DDT IV	9	DDT	lab.	195.0	8.7	10.04	0.29	0.04	1.30	0.05
Lindane	46	Lindane	lab.	1.20	1.10	12.7	1.86	0.40	1.40	0.05
Dieldrin	36	Dieldrin	lab.	2.50	3.90	0.60	101.0	390.0	1.90	0.07
Chlordane	40	Chlordane	lab.	0.72	1.5	0.65	150.2	7.25	1.22	0.07
Multi I	4	Methoxychlor	DDT I	298.0	220.0	0.12	0.23	0.08	1.80	0.07
Multi VI	19	Lindane	Methoxychlor	0.80	>100.00	40.6	2.70	0.70	1.40	0.06
Multi VII	17	Lindane	DDT I	275.0	16.70	48.3	0.96	0.60	1.50	0.09
Multi IX	19	Mixture[1]	Multi I	325.0	225.0	148.4	131.3	378.9	2.00	0.07

[1] A mixture of chlordane, lindane, dieldrin, toxaphene, DDT, methoxychlor.

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- WAXES
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MACHINE WRAPPED
IN HEAT SEALED
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- DEODORANTS
- CONTAINERS
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TABLE 3

DDT resistance observed in field collected-strains of house flies (1945-1950).

Year	No. of farms tested	DDT. LD-50 Range	DDT. LD-50 Average	Per cent resistant
1945	3	0.18-0.2	0.19	?
1946	3	0.30-0.45	0.34	?
1947	4	0.7-0.82	0.75	?
1948	8	3.6-9.3	8.5	25.00
1949	94	1.1-15.7	5.1	87.00
1950	36	3.3-42.0	9.9	100.00

a strain to the rapid development of resistance to some other chemical. The 24-hour LD-50 values for several insecticides (in micrograms per fly) when applied topically to several resistant strains developed in the laboratory are given in Table 2. By reading horizontally across the line for each strain and comparing the LD-50 value for each chemical with the normal value given in line 1, we can see to what extent the strain's response to any given chemical has changed in the course of developing a high degree of tolerance for another.

It appears that flies exposed to the synergized pyrethrins and para-oxon develop resistance very slowly and that, even after generations of inbreeding, the order of tolerance attained for these chemicals is only 10 to 20 times that of normal flies. Furthermore, it seems apparent that the acquisition of a high degree of tolerance for one or several of the other chemicals tested had little effect on the flies' response to synergized pyrethrins and para-oxon.

All of the other materials tested produce a high degree of resistance in a comparatively short time and all tend to in some degree induce a certain degree of resistance to other compounds. In acquiring a high degree of resistance to DDT, flies also acquire a fair degree of resistance to the closely related compound methoxychlor, but only a slight degree of resistance for lindane, chlordane, and dieldrin. Chlordane, dieldrin, and lindane apparently share a close relationship, and resistance for one of the three carries with it a fair degree of resistance for the other two. The relationship between chlordane and dieldrin seems to be particularly close. When a strain of flies resistant to one chemical is subjected to treatment by another chemical, resistance to the second toxicant is acquired rapidly and here again the inter-chemical relationships noted above tend to prevail. A mixture of insecticides, "Shot Gun Treatment," produced the maximum observed resistance to all of the materials simultaneously.

Developments in the field have followed the course we might expect by basing our predictions on laboratory findings. DDT came into fairly general use in 1945. Resistance developed slowly at first but became a significant factor in fly control by 1948. In 1949, 86 of the 94 samples of flies collected at random on widely scattered farms in Illinois showed a significant degree of resistance. In 1950, 36 samples were taken and all showed resistance to DDT. (Table 3).

With the appearance of DDT resistance, farmers began switching to other insecticides and it is significant that 8 per cent of the 36 samples collected in 1950 showed a significant degree of resistance to lindane, chlordane, and dieldrin, Table 4.

It was observed in the laboratory that in developing resistance for one chemical a strain of flies often developed some degree of resistance to other chemicals and that with a change of insecticides that tendency might be exaggerated. Let us observe what happened under field conditions on two Illinois farms, Table 5. Because resistance rendered DDT practically worthless by the end of the 1948 season, dieldrin and lindane were substituted in 1949 and 1950. No DDT was used on those farms the last two years, but typical multi-resistant strains were produced in which DDT resistance was intensified and the flies acquired resistance to dieldrin and lindane.

Returning now to our original question, "Where are we going with fly resistance?" we must first acknowledge that in following present procedures we are rapidly developing strains of flies highly resistant to several insecticides. House fly resistance to DDT is widespread, if not almost universal. Fly resistance to lindane and dieldrin has been reported from many sources and more serious developments may be just around the proverbial corner. Many of the chlorinated hydrocarbon insecticides which have a tendency to produce a fairly high degree of resistance in one, two, or at most three years are in common or general use. To make matters even worse, in many, if not most, instances they are being used promiscuously, applied by fog machines, airplanes, and all types of spray machines without regard to the dangerous practice of placing incompletely lethal amounts of the toxicant in fly

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TABLE 4

Resistance to insecticides observed in 36 farm collected strains of house flies in 1950, expressed in micrograms per fly.

Insecticide	% of strain showing resistance	Range of LD-50s	Average LD-50	LD-50 of insecticides to normal flies
DDT	100.0	3.3 -42.0	9.9	0.33
Lindane	8.3	0.09- 0.30	0.15	0.03
Chlordane	8.3	0.5 - 2.0	1.1	0.12
Dieldrin	8.3	0.12- 0.40	0.21	0.019

TABLE 5

LD-50 values on two field strains of flies, expressed in micrograms per fly.

	Farm A			Farm B		
	Treatment	LD-50		Treatment	LD-50	
Year	on farm	DDT	Dieldrin	on farm	DDT	Lindane
1945	DDT	0.2		DDT	0.18	
1946	DDT	0.3		DDT	0.4	
1947	DDT	0.8		DDT	0.7	
1948	DDT	8.1		DDT	9.0	
1949	Dieldrin[1]	4.0	0.019	Lindane[2]	8.5	0.03
1950	Dieldrin	18.0	0.36	Lindane	42.0	0.18

[1] Barns completely insulated and old DDT covered.
[2] Much DDT still adhering to the walls, etc.

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How to Sell Quaternaries

By Irving Gaines*
Onyx Oil and Chemical Co.

IN ORDER that we may derive the maximum benefit from newly discovered compounds and take advantage of any unusual properties exhibited by them, we must adopt a well organized plan to bring these new products to market. This marketing plan may encompass a large variety of different phases but we can narrow it down, in the case of germicides, particularly the quaternaries, to two phases, namely, product evaluation and market analysis. Product evaluation and market analysis are intimately related in the general marketing of industrial products. Neither phase is capable of proceeding very far without a corresponding advance by the other. Thus, once a possible market is envisioned for a germicide, its evaluation in the particular application should proceed before complete distribution of the product is undertaken.

We have seen quite a bit of technical literature published on the laboratory evaluation of quaternaries and also some on the results obtained from their actual application, principally in the dairy field. It seems appropriate to discuss some of the considerations that guide our thinking when looking for possible markets for germicides. This discussion will also show the inter-relation between product evaluation and market analysis.

Market research has been defined as "the study of all problems relating to the transfer and the sale of goods and services from producer to consumer."[1] The problems that relate to the analysis of markets for industrial products are a part of market research and may be described as follows:

1—Finding new uses for the product you sell by investigating the application of your product in as many industries as possible.

2—Improving your existing line of products to make up for deficiencies in the products or in the entire line you now market.

3—Adapting the products you now sell or your entire line, if necessary, to new methods and processes in the industries you service.

Let us examine these problems as they apply to germicides in general. The existing applications for germicides, as a class, are well known and do not require identification. The important consideration in the application of germicides to each particular industry is to investigate the sales potential involved in each possible application. The food processing industries will serve to illustrate this type of investigation.

Possible Markets for QAC's

ALL industries dealing with the handling, preparation, packaging and distribution of foodstuffs are possible markets for germicides. The sales potential in a specific application in food processing depends upon several important factors. The most pressing of these is the severity of the problem presented by bacterial contamination of the product the particular industry produces. Losses of product due to contamination, fermentation and generally speaking, the ravages caused by bacterial growth are to be avoided as much as possible for obvious economic reasons.

If the foodstuff is fairly stable to decomposition by bacterial action during all handling and processing operations there is little need for constant use of a germicide to protect it. On the other hand, if the product of the particular industry under investigation may easily become unfit for consumption by bacterial contamination when it is handled or processed, the elimination of organisms from the surfaces which the foodstuff contacts is of major importance. The continued use of a germicide is indicated in such cases. There are, of course, many shades of grey between the two extremes but a study of each case will reveal the degree of necessity for the use of a germicide.

This study is in reality a survey of the problems and individualities of each industry. It can be employed to investigate other factors describing the potential for the sale of germicides. There are considerations which will determine the type of product to employ; whether it is necessary to use a three step cleaning-rinsing and sanitizing procedure or whether the two step cleaner-sanitizer can be used. The need for products to use on surfaces other than those which the foodstuff contacts, such as floors, walls, outside of tanks, for instance, will be discovered. The characteristic that such products must exhibit is residual bactericidal or bacteriostatic properties. The use of mechanical systems for cleaning and for bacteria control will be uncovered and the competitive situation as regards other germicides that are used in this same application can be ascertained. The degree of efficiency and ease of application of competitive products can be noted, as well as possible deficiencies in their application or performance.

The question of whether it is necessary to use a two step or a three step operation to clean equipment and to eliminate bacteria from it will usually be resolved on the basis of determining the nature and amounts of food wastes or residues formed during processing. If they are unusually large or of such a nature that they will seriously inhibit the action of the germicide, wastes and residues should be removed first by cleaning compounds before application of the germicide is attempted. If the residues are slight and their presence will not interfere

* Presented at the 37th Midyear Meeting of the Chemical Specialties Manufacturers Association, April 30, 1951.

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with the action of the anti-bacterial agent, a two step cleaner-sanitizer may very well be used to advantage.

Regulations a Factor

ANOTHER important factor to consider, which also can be determined by survey, is the regulations and standards governing the production, processing, storage and distribution of the foodstuff involved. If the industry is well regulated, the potential purchasers of germicides will be extremely interested in the product you want to sell because it will help them do the job they have to do in order to present an acceptable product to the market. If they are not well regulated, if the standards of the industry are low or if they can get by with a minimum of good sanitary practice, they will not be receptive to products that will improve a condition they are not forced to improve.

The best avenue of approach in a situation of this sort is an educational appeal to progressive groups in the industry genuinely interested in improving sanitary practices in their own backyards. Fortunately, due to the high standards of health in this country, the educational level of our people and the fine job being done by the regulatory and advisory agencies, cases falling into the "I don't care" class are rare, at least in degree of this poor attitude. Most of the people in the food processing industry responsible for the condition of their plants and the equipment in them are coming to the realization that good sanitary practice is one of the mainstays of their business. The slipshod methods that were practiced only a few years ago are falling by the wayside and are being replaced by newer methods involving the use of new compounds. Quaternaries, for instance, represent another long step forward in this never ending search for better products to promote better sanitary conditions in food processing plants.

Taking into consideration these important factors which will play a large part in determining the nature and potential of the market, we can proceed with the actual survey.

There are many techniques we can use to obtain the information we want. We can survey by direct in-

QUESTIONNAIRE

1—Name of Firm.....
2—Address .....
3—Industry .....
4—Name and title of person interviewed.....
.....

5—Construction of equipment in plant (Specify: Steel, Glass, Wood, etc.)
1. ..... 2. .....
3. ..... 4. .....
.....

6—Laboratory Facilities.....
.....

7—Type of sanitary chemicals presently used (Specify by chemical base or Trade Name)
a) Cleaning compounds.....
b) Sanitizing agents.....
c) Others .....

8—Approximate quantities used of a, b, or c on a monthly basis.
a) .....
b) .....
c) .....

9—Is there a manual or mechanical system of cleaning and/or sanitizing used.
(please underline) If mechanical, please give details.....
.....

10—What special problems do you have in cleaning the equipment in your plant?
.....
.....
and sanitizing the equipment.....
.....
.....

11—Is your product especially subject to spoilage because of contamination?
.....
.....

12—What are the regulations and/or restrictions governing the utilization of sanitary chemicals in your plant?
Federal .....
State .....
Local .....

13—What are the regulations governing the standards your products must meet?
Federal .....
State .....
Local .....

14—What improvements would you desire in the compounds you are presently using?
.....
.....
.....

15—What new products do you think would help you do your job more efficiently?
.....
.....
.....

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vestigation, that is, by gathering information brought in from the field by the sales force. We can survey by mailed questionnaire, telephone inquiry or personal interview. The choice of a particular survey technique depends upon: (1) the number of purchasing units in the market and (2) the nature of the information required. Obviously, mailed questionnaires and telephone surveys will receive little attention from the people we will question. The best course to follow is to depend upon direct investigation and personal interview.

The information compiled from the questionnaires will give a good idea as to the relative potentials for the use of a germicide. During the interviews, if the interviewers are technically trained personnel, they will be able to obtain whatever additional information is needed to round out a more detailed picture for the firm conducting the survey.

Product evaluation, then, is the next step in the marketing campaign. It will be necessary to choose the most efficient product possible as the base for the finished formulation. In the case of quaternary ammonium compounds, laboratory screening can be utilized in an effort to choose the best one. This can be done by determining the one most efficient on a cost/performance basis under the conditions that exist in the application. Once this choice is made, a finished formula is prepared which will insure the best results in field application. Finished formulations can best be evaluated by examining the results of a laboratory test that duplicates, as far as is possible, the conditions of application in the field. We then proceed with the most efficient formulation in actual application to see exactly what it does and also to compare the quaternary based product with other types of germicides that may be employed in the same application. The product is now ready for distribution.

The foregoing is an example of the procedure that may be followed in probing for markets for germicides and the evaluation and distribution of carefully chosen products in the most promising applications.

It is interesting to return to the original problems of the analysis of markets set forth at the beginning of this discussion and relate them specifically to quaternary ammonium compounds.

Quats are Versatile

THE first important consideration as you may recall is the application of your product in as many industries as possible. Quaternaries are odorless and colorless in use dilutions, they are relatively non-toxic and non-irritating at concentrations high enough to kill bacteria, they are stable in solution and do not volatilize, thus assuring the user of maintaining the concentration necessary to do the job throughout the entire process. Quaternaries are not corrosive and will not damage expensive, hard to replace equipment over long periods of continued use. These characteristics make quaternaries useful for a variety of applications where color, odor and corrosiveness are a nuisance and this increases their versatility. Many germicides are limited in their application by any one or even more objectionable features other than performance. When a product is developed that overcomes specific disadvantages in the application of older products and its performance can be demonstrated to be just as efficient, certainly it presents the compounder with a more versatile base of operations. The more universal the application of a product the more advantageous it is for any one firm to employ it. Quaternaries certainly exhibit the property of being able to be applied in an extremely large variety of applications. It is this property, coupled with efficient performance in the field that will see them used more widely as time passes.

The second important consideration and I think we can include the third one as well in the same breath, is the improvement of the existing line of products to make up for deficiencies exhibited by them. It is also vitally important to adapt your products to new methods and processes in the industries you now service.

Quaternaries are one of the most recent developments in the field of sanitary chemicals. For this reason alone they merit consideration where improvement of a line of products is necessary in order to bridge whatever gaps exist in the application or performance of other germicides. While detailed investigation of the application of quaternaries is necessary in order to prove their efficiency in each possible end use, this same type of evaluation procedure must be adopted for any new chemical that is presented for commercial application. In other words, this end use evaluation program is not unique when applied to quaternaries and should not be construed as indicating any weakness in their performance. We are all seeking for ways and means to improve conditions of public health. We will certainly not remain satisfied with any group of products no matter what present standards are due to their use. It is the responsibility of every one of us to see to it that no avenue of application of new products such as quaternaries is left unexplored because we think we are satisfied with the results now obtained with older products. Much of our effort to date has been expended in the examination of a few specialized applications of quaternaries. This effort can well be applied with equal energy to other fields, with consequent improvements in the practices and standards in all of the industries depending upon improved sanitary maintenance for more efficient operation.

We further note that quaternaries are not employed in some applications principally because of their incompatibility with ordinary cleaning compounds. This is another case where we must adapt our methods to improve conditions which now satisfy our present standards. There are efficient cleaning compounds (non-ionic detergents) available which are compatible with quaternary ammonium compounds. The utilization of these non-ionic detergents will enable us to take full advantage of the versatility of quaternaries and we may expect to find more evaluation work taking place in the applications which require cleaning and sanitizing in one operation.

In summary I would like to point out once again that in order to take full advantage of the unusual

(*Turn to Page* 181)

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TERRAZZO SEALERS

By George J. Flanagan*
Federal Varnish Division

AN INCREASING awareness of the advantages resulting from the use of terrazzo sealers has been noted during the past years. The use of correct sealers and sealing methods is recognized by those concerned with terrazzo as prolonging the life, preserving the appearance and making easier maintenance of the floors possible. To be effective, sealers for terrazzo, as with wood or more porous surfaces, should be applied only to new floors or to floors that are thoroughly clean and free from surface stains.

The term sealer is no longer confined solely to varnish type products for use on wood or composition floors. For purposes of this discussion, "hardeners" of the silicate type will not be classified as sealers as they are not widely used for sealing properties. When used in terrazzo, they are employed—as their name denotes—as hardeners. As such, they must be used during the processing of the floor and in the mix to increase adhesion of the cement to marble chips. They are used to harden and set the chips to prevent dusting and pitting during polishing. An important, if sometimes surprising, fact, not too often thought of when considering the advisability of sealing terrazzo, is that the hardness of the marble chips varies from that of chalk to glass or greater.

Terrazzo Described

A BRIEF description of terrazzo may be of interest and aid in understanding the need for a terrazzo sealer. Terrazzo is one of the oldest composition floors. Mosaics date back many centuries and undoubtedly originated with the Venetians. Marble granules and Portland cement are mixed and processed to produce a Venetian marble mosaic. The mixture is placed while wet between metal dividing strips previously anchored in an underbed. After the matrix is spread to a thickness of approximately five-eights of an inch, it is compacted and worked to a rough surface. At least seventy per cent marble granules must show in the finished surface. After the first honing, additional cement is grouted in to fill any voids. Sometime after three days the grouting is polished down and the floor sealed.

The National Terrazzo and Mosaic Association stresses the cleanliness feature of terrazzo and in doing so states, "Terrazzo can be sealed to be practically non-absorbent. Its smooth, jointless surface cleans easily . . . can harbor no accumulation of macroscopic or microscopic germs . . . it is aseptic." These statements seem to be predicated on properly sealed terrazzo. There is no question then as to the advisability of sealing terrazzo from the standpoint of the association. Several other important reasons can be given, assuming that the best materials are used and the floor is laid and finished correctly. These reasons are based on the characteristics of terrazzo, a material which requires treatment just as wood and other surfaces do.

Use of the right sealer when the floor is new will protect it from staining by water and other foreign matter which tends to discolor. The sealed in moisture aids in correct curing and prevents the objectionable blooming or deposition of efflorescent mineral salts. Of secondary importance is the initial gloss obtained from sealing a new floor. One of the most important functions of a sealer is to prevent the pitting or deterioration of the cement binder. When alkali and abrasives are used for cleaning, the cement is eaten away from around the marble chips. Once started, the pitting continues, necessitating the regular use of strong cleaning agents on the now roughened surface, which is the beginning of a progressive cycle. Regardless of the type of sealer, it serves in a protective as well as a preventive role.

The Terrazzo Association does not endorse any sealer or terrazzo product by name or type, but states the following in their bulletin, *Terrazzo Maintenance*:

> "Terrazzo is benefited by a penetrating (not surface) filler or seal. The urgency for the need of such a penetration treatment varies with the floor. This association recommends that the use of purely surface waxes, varnish preparations and 'good - for - anything' materials be avoided."

This establishes a basis for classifying four basic types of sealers or treatments now available. A further distinction is sometimes made as to type: the permanent and semi-permanent seals. There are, of course, variations within the following groups according to the manufacturers' formulations. Permanent sealers will fall into two categories: The synthetic resin or plastic resin type and the oleo-resinous or varnish type. The synthetic resin type is characterized by water white or clear color, non-yellowing, fast drying, low vicosity and penetrating properties. Lack of color, resistance to oils, greases and alkalis are the advantages of this type.

The synthetic resin type should not be buffed by a floor machine or other means. It is allowed to dry and a second coat used only where porosity is unusually great or higher gloss is desired. The principal con-

* Paper presented before 37th Midyear Meeting C. S. M. A., Chicago, May 1, 1951.

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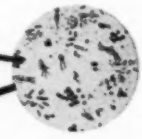

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sumer objection to this sealer is that it does not leave a surface film and high gloss on initial application. Only by creating a surface or high gloss finish will any traffic lanes or wear be apparent. It is to be expected that with a relatively low solid content that there is not sufficiently high abrasion resistance for a good surface finish. As this formulation contains no wax, there is no slip hazard nor wax properties to be achieved by buffing with a floor machine. The fast drying properties make careful application necessary. Although the solvents used create a very pungent and somewhat disagreeable odor, which disappears when the sealer dries, usually within an hour. Care should be exercised when using this type of sealer where food products are being processed or stored.

Oleo-Resinous Sealers

OLEO-RESINOUS sealers are generally penetrating wood sealers reduced with mineral spirits. As such, they achieve penetration in proportion to the amount of reduction. At higher solids, the sealer in reality becomes a surface finish with greater ability to fill pits and small voids in the surface. If of a high quality base, its resistance to oils, grease and staining is great. These advantages are greatly offset by discoloration and traffic lanes or wear that is apparent when the gloss is worn in traveled areas. Many terrazzo contractors have used oleo-resinous sealers at one time or another. The temptation to leave the floor with a glass-like finish is great. Within a few weeks surface is marked and traffic lanes are apparent. Oleo-resinous sealers are easy to apply—no polishing is required and they can cover temporarily a poor job of workmanship in finishing the floor. Because of the simplicity of processing oleo-resinous sealers into a so-called terrazzo sealer by the user, this type has been applied widely, usually only once. As repatching is difficult, for best results all the seal should be removed before resealing.

Unfortunately oleo-resinous products have given a bad name to all terrazzo sealers regardless of type. Once a floor has been sealed with an oleo-resinous sealer, it is very difficult to get the owner to use a terrazzo sealer again. Discoloration at the time of application and subsequent darkening with age are a real objection to using oleo-resinous sealers, which are not approved by the Terrazzo Association.

Though the above sealers are for simplicity classified as permanent, in reality there are no permanent sealers as cleaning and wear will gradually erode the surface and the sealer that has penetrated. Sealers classified as semi-permanent are solvent wax and varnish gum or resin compounds. As such they can be removed more easily by solvent action than the other types.

Semi-Permanent Sealers

A SEALING effect is obtained with the wax and gum or resin type. The amount of penetration obviously is small even though the sealer is buffed with a floor machine. The protection provided depends on the hardness of the film and the amount of seal buffed into the matrix and into or over the marble chips. The maintenance of floors treated with semi-permanent sealers determines the life of the sealer. A soap film when controlled correctly acts as a protective coating and adds to the life of the sealer. A short life is the rule for a semi-permanent type of sealer.

In many instances good or bad maintenance determines the life of the sealer, as well as of the floors themselves.

The use of a petroleum solvent in the formulation is not advisable since petroleum products—oils, greases and solvents—tend to soften, dissolve or penetrate the sealer and floor. This is a serious deficiency since terrazzo floors are installed in automobile showrooms, hospitals and other areas subject to grease, oil and staining.

The use of wax, gum or rosin sealers is relatively great because they were among the first to be marketed. With very little preparation, such sealers can be applied, buffed and a fairly high gloss obtained. Traffic lanes and marks can be healed by buffing frequently.

Though not widely marketed today, another type of sealer consisting of wax and soap is sometimes used. In characteristics and sealing properties, it results in a finish similar to that obtained from the use of a heavy bodied soap. The addition of wax gives more sheen than would be obtained from a soap film. After scrubbing and cleaning the floor with the wax soap for a period of time, it is supposed to be sealed by the remaining film. Some sealing action is obtained through the use of such a compound, but from a technical standpoint two factors tend to make the success of such treatments doubtful. First, unless used often enough, and at the right strength for cleaning, the soap and wax film tends to discolor the floor. Second, as a sealer, the soap and wax film does not afford sufficient protection against the very elements that are a prime reason for sealing terrazzo in the first place, namely, stains and penetrating agents. A third reason is the necessity for continued use of the product. Cleaning agents or procedures which resaponify the soap and wax film will return the surface rapidly to a completely open and unprotected condition. If such a film is used, the buildup must be controlled carefully or it will dull the appearance and cause a slip hazard. The Terrazzo Association is strongly opposed to the use of any film for terrazzo maintenance.

Unless they are especially formulated so as to be conductive, sealers should not be used on terrazzo floors in hospital operating rooms or other floors where this feature is essential, unless it has been proved they do not prevent conductivity.

Terrazzo has not been used to a great extent for exteriors and, possibly with the exception of twelve street and sidewalk blocks on Canal Street in New Orleans, it has not been used for much other than an occasional sidewalk, store foyer or trim. There is no reason why sealers should not benefit exterior installations as well as interior. The requirements basically would be the same, but in addition weathering due to sun, rain, ice and snow in some localities must

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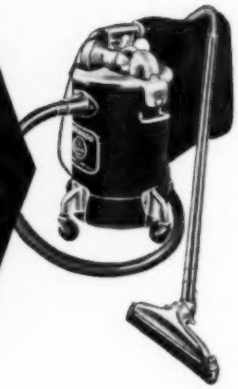

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be considered. In the south, particularly in Florida, much exterior terrazzo has been installed recently. From what could be observed and learned there, little or nothing is being done in the way of sealing after the initial use. Maintenance consists of limited cleaning. Therefore, an increasing market exists for sales of terrazzo sealers not only for older interior floors, but for exterior terrazzo as well.

Magnesite Floor Care

WHAT has been mentioned concerning sealers for terrazzo applies essentially to magnesite floors as well. Magnesium oxychloride cement is used in the matrix instead of Portland cement. Granite chips or gravel may sometimes be used instead of marble chips. The Oxychloride Cement Association is still trying to establish a specification for a sealer. The clear, synthetic resin type is being used with great success on magnesite and marble chip installations. One manufacturer of this type of flooring is recommending its use for all installations.

Sealers of the other types already mentioned are being used as well as mixtures of linseed oil and benzine on plain magnesite. There is good reason to believe there is a field for sale of sealers which has not been widely explored.

The cost of an average terrazzo floor installation is from seventy five cents to one dollar and a quarter per square foot. Magnesite in most cases will cost about one-half that amount. The lower cost, ability to install over old floors and light weight have all been factors contributing to the increased use of magnesite. Most magnesite installed is of the darker shades so the immediate effect of amber or oleo-resinous sealers is not objectionable. The same condition results as on terrazzo when sealers which leave a surface film are used. A somewhat more porous and less resistant surface than terrazzo, the great need for sealing and proper maintenance exists in the case of magnesite, too.

Variations of terrazzo exist and are usually described by the manufacturers trade name, such as "Mar Flex," "Marbelette," and "Hubbelite." Only in the case of the latter type of floor should the use or recommendation for use of any sealer be questioned. The cuprous mixture is supposed to create a surface condition that is conductive, as well as repellent to bacteria and roaches. Sealers with film properties tend to retard these effects. A wax type material is sold by the manufacturer of the flooring material, and may or may not be similar to one of the sealer types already mentioned.

An additional market receiving some attention as a field for terrazzo sealers or materials of that type is that of concrete floors. A vast increase has taken place in the past few years in the use of concrete as a floor surface without additional coverings. Where a finely troweled surface is used and conditions create the need for a sealer, terrazzo sealers are being used with very satisfactory results. Where a colored finish, such as is obtained with a pigmented sealer is desired, the clear synthetic resin sealer has been used as a prime coat to prevent alkali action and breakdown of the pigment. Any sealer containing wax should not be used for that purpose.

Dusting and spotting can be eliminated to some extent by the use of these sealers on a rough or floated concrete. Depending upon the roughness and porosity of the floor all will perform but the use of oleo-resinous sealers is still recommended for longer wear and better filling.

The other component of terrazzo is marble. As a floor, the use of marble is not too prevalent. Where it is used it is sometimes a problem. The success of use of terrazzo sealers is dependent upon the hardness of the marble used. Soft marble may be benefited by sealing and a reduction in maintenance operations will result. The same sealer on a hard marble floor may fail to penetrate, peel or create uneven high and low reflection. Any sealer containing wax may create a slip hazard that is impossible to control. For the above reasons, a trial application of sealer is recommended for use on a trial area before undertaking what may prove to be a costly and unsatisfactory job in the long run.

Marble used for walls, partitions and decorative effect is usually highly polished. Unless there are unusual conditions existing in the area, a sealer may not prove of any benefit and may even detract from the beauty or appearance of the surface. Exterior marble may in some instances be beautified and protected by sealers. Only the wax and resin type or clear synthetic sealers should be used and then only by experienced personnel. The field of marble maintenance is a specialty in itself and for those interested, more information may be obtained by writing to the Marble Institute of America, Inc., Mount Vernon, N. Y.

There does not seem to be too much difficulty in satisfying the customer as to the type of sealer used on his floor. If it looks clean and has some gloss, he is usually satisfied whether it is sealed or not. The greatest user of terrazzo sealers today is the terrazzo contractor for new floors. His requirements are not met easily. The following are some of their regulations:

1. Something very inexpensive; 2. Heavy bodied, yet fast drying; 3. High gloss without buffing or polishing; 4. A surface as smooth as glass, but without slip; 5. Penetration, but with enough surface finish to buff when worn.

If the requirements of the Terrazzo Association and the contractors can be met entirely with one product, it will be surprising.

In conclusion, it may be in order to repeat that terrazzo is to some extent similar to wood flooring and in its variation in porosity. Penetrating sealers are recommended for sealing wood—followed by a finish coat of similar type or of some other protective material. There is good reason to believe that the same approach can be followed with reference to materials for terrazzo.

The clear, non-yellowing type of sealer meets with the requirements of the Terrazzo Association more exactly than do other types. With the relatively high cost of terrazzo, its beauty and natural properties, only the right sealer should be used for the preservation and protection of terrazzo and mosaic floors.

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Hand Cleaners

(*From Page 98*)

not be greasy, should have a pleasant smell and, if they are to be used on the face, should be tinted. Perfuming agents must be selected with care and it has been advised (59) that enough perfume should be employed to mask the odor of the ingredients of the cream and to give a definite but unobtrusive fragrance to the product. The perfume should be refreshing rather than sweet; appropriate odors being pine, lavender, verbena or spicy bouquet. However, a non-perfumed protective may be needed in some cases as, for example, where workers are handling foodstuffs or other material which readily absorbs odors. (60)

It must also be stressed that protective preparations must be applied only to a clean skin. Failure to wash before applying the cream will not only nullify any preventive effect but aggravate the condition. (61) As pointed out by Leggo, (22) any cream applied over an unclean skin defeats its own purpose. The dirt or oil already in the skin is sealed in to exactly the same extent to which the fresh oil or grime is sealed out.

During recent years various laboratory tests have been proposed for evaluating the efficacy of protective preparations. Thus, among the various laboratory procedures discussed by Sadler and Marriot, (62) one simple means of testing consists in spreading the barrier cream on a suitable glass surface and letting it dry to form a film. This film is carefully removed from the surface and immersed in the liquid against which it is supposed to provide protection. By comparing the time required for different films to disintegrate, it is possible to assess the comparative efficiency of the product under investigation.

Despite the usefulness of these and other laboratory tests to weed out unsuitable preparations, they fail to account for such variables as humidity, friction, abrasion, sweating and the like. Hence, more indicative tests are made on the skin itself, and best results are obtained under practical use conditions normally found in industry. (63)

Another means for lessening the hazards of certain toxic materials is provided in the so-called indicator soaps. These contain an indicator which shows a color change as long as any trace of the irritant remains on the skin. The first of these was devised by Norwood (42) and contained 5 per cent of potassium sulfite in liquid soap which shows a pink color as long as tetryl or TNT remains on the skin. Another, developed by Mason and Botvinick, (43) contains a small amount of diphenylthiocarbazone which gives a purple color as long as even minute traces of mercury fulminate are on the skin.

Other methods for stepping up the antidermatitis action of skin cleaners have been suggested; one of these being the inclusion of antiseptics. By itself, soap affords a certain amount of antibacterial action; this being attributed largely to its ability mechanically to remove the organisms from the skin. (15) Dermatologists have long sought an agent which, when added to cleaners, would exert a stronger and more persistent germicidal effect. Such a substance, by reducing the bacterial flora of the skin, would serve to prevent infection and further aggravation of the irritations and abrasions resulting from the day's work. They might, as remarked by Schwartz, (44) have considerable value in the prevention of folliculitis, furuncles, and infected acne lesions occurring in workers exposed to cutting oils, petroleum oils and heavy coal tar distillates.

Of course many compounds have been tested and most of them discarded. It seems, however, that considerable promise is provided by hexachlorophene, commercially known as G-11 (Sindar Corp., New York City). Aside from extensive clinical studies, hexachlorophene-containing soaps have also demonstrated their effectiveness when tested under various industrial conditions. (45, 46) As recently remarked by Trusler, (47) in a consideration of the use of such a soap as an aid in the prevention of industrial dermatitis, when properly used, the soap has been of substantial help in reducing skin infections caused by external sources. He also notes that soaps containing hexachlorophene do not irritate the skin and are nontoxic.

Such soaps, which are available in bar and liquid form, are particularly recommended (48, 49) for the prevention of secondary infections which often follow a dermatitis caused by cutting oils. Aside from the prevention of dermatitis, the regular use of these cleaners could be an important factor in the prevention of infection-transmission by food handlers, barbers, beauty parlor workers and others who perform personal services.

(Part II of "Hand Cleaners and Protectants" which will appear in our next issue will discuss properties and formulation of protective creams and lotions in relation to specific industrial hazards of dermatitis.—The Editors.)

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Fly Resistance

(*From Page* 143)

breeding media. Unless we stop and pay more attention to the apparent obvious warning signals before us, it appears conditions will rapidly grow worse before they get any better. A number of investigators are now searching for synergists or other supplemental chemicals that may aid in effectively overcoming resistance, but to date no really promising progress has been reported. For the time being, therefore, we are faced with the necessity of proceeding with caution.

Experience tells us that to commend certain materials or condemn others at this point serves only to invite the praise of some producers and the wrath of others. Neither is desired. If the information presented, however, is to be of any immediate value, it should lead us to certain tentative recommendations:

1. Good sanitation should be emphasized as the first and most important step in fly control.
2. Screens and other mechanical devices should be used to the limits of their practical value.
3. The non-residual space sprays should be used where practical.
4. The use of mixtures containing several residual-type insecticides should be avoided.
5. Residual type sprays should be applied in a manner that will not contaminate straw, manure, and other fly breeding media.
6. If larvacides are used, they should not be closely related chemically to any of the residual type sprays.

New Trade Marks

(*From Page* 75)

solutions of organic insect repellent. Filed May 7, 1949 by Birma Manufacturing Co., Buffalo. Claims use since Nov. 23, 1948.

Cardel—This for soap flakes and granules. Filed Apr. 27, 1950 by Cardel Co., Chicago. Claims use since Jan. 18, 1950.

Janice Adams — This for superfatted soap in cream form. Filed June 21, 1950 by Janice Adams, Ltd., Chicago. Claims use since June 19, 1950.

Katherine Gray—This for soap. Filed July 12, 1950 by Katherine Gray, Granby, Colo. Claims use since Sept. 1, 1942.

Foodland — This for self-polishing floor wax. Filed Mar. 26, 1948 by Clover Farm Stores Corp., Cleveland. Claims use since Jan., 1934.

Gray Cross—This for tincture of green soap. Filed Jan. 13, 1948 by Rabin Co., Los Angeles. Claims use since Aug. 29, 1947.

Bear—This for ammonia. Filed Nov. 4, 1948 by American Bluing Co., Buffalo, N. Y. Claims use since Jan. 1, 1928.

Double Check Dust—This for insecticides. Filed Nov. 17, 1949 by H. D. Long & Son, Park River, N. Dak. Claims use since May 1, 1949.

Rax Powder — This for rodenticides. Filed Apr. 8, 1950 by R. J. Prentiss & Co. (now Prentiss Drug & Chemical Co.) New York. Claims use since Oct. 25, 1949.

Germo — This for deodorants, disinfectants, etc. Filed May 1, 1950 by Germo Manufacturing Co., St. Louis. Claims use since Nov., 1902.

Butrol — This for bactericide. Filed May 9, 1950 by Buckman Laboratories, Inc., Memphis, Tenn. Claims use since June 30, 1949.

Moth Gard — This for insecticides. Filed June 1, 1950 by Moth-Gard Products Co., New York. Claims use since 1937.

Moth-A-Teria — This for moth and mildew preventives. Filed June 8, 1950 by Better Homes Laboratories, Chicago. Claims use since Jan. 1, 1946.

Chem-Therm — This for cleaning compounds for steam cleaning of automobiles, etc. Filed Sept. 13, 1948 by Southern Supply Co., Pasadena, Calif. Claims use since July 20, 1938.

Smoothie — This for waterless hand cleaner. Filed May 25, 1949 by Smoothie Hand Soap Co., Detroit. Claims use since Oct. 1, 1940.

Drex-Foam — This for liquid synthetic detergent composition for general cleaning purposes. Filed June 2, 1949 by Detrex Corp., Detroit. Claims use since July, 1948.

Fabrinew — This for non-inflammable cleaner for upholstery and convertible tops of automobiles. Filed Aug. 19, 1949 by Lustre Products Corp., Detroit. Claims use since Sept. 1, 1948.

Altrex — This for metal cleaning compound. Filed Nov. 5, 1949 by Wyandotte Chemicals Corp., Wyandotte, Mich. Claims use since Aug. 31, 1948.

Dishpan Annie—This for liquid detergents for use in washing of fabrics, etc. Filed Dec. 22, 1949 by Park Wilshire Laboratories, Needham, Mass. Claims use since Jan. 15, 1948.

Laundrazyme — This for enzymatic preparation for removal of starches and proteins from washable fabrics. Filed Feb. 20, 1950 by Wallerstein Co., New York. Claims use since Nov. 26, 1934.

Smooth Panther Brand — This for soap. Filed Mar. 2, 1950 by Peter C. Carlisi, Arnold, Pa. Claims use since Jan. 6, 1950.

Fialasol — This for solvent detergent for use in the process of scouring wool. Filed Mar. 16, 1950 by Fiala, Inc., Cleveland. Claims use since Apr. 5, 1948.

Billow—This for shampoo product. Filed Mar. 23, 1950 by Carter Products, Inc., New York. Claims use since Mar. 14, 1950.

Bronco Brand — This for bottle washing compound. Filed Mar. 24, 1950 by Frontier Chemical Co., Midland, Tex. Claims use since Feb. 28, 1950.

D-Sperz — This for non-ionic detergent for use in the textile trade. Filed July 22, 1950 by Eaton Chemical and Dyestuff Co., Detroit. Claims use since May 29, 1950.

Committees Meet

(*From Page* 175)

Co., Bridgeport, Conn.; H. E. Peterson, Continental Filling Corp., Danville, Ill.; Dr. Geo. W. Fiero, Esso Standard Oil Co., New York; Charles W. Furst, Furst-McNess Co., Freeport, Ill.; T. B. Welsh, Gulf Oil Corp., Pittsburgh; T. Carter Parkinsor, McCormick & Co., Baltimore; C. A. Clark, McLaughlin, Gormley, King Co., Minneapolis; Friar Thompson, Prentiss Drug & Chem. Co., New York, and Simon Selig, Jr., Selig Co., Atlanta.

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TRADE NEWS

Heads Spickelmier Products

James F. Van Kennen was recently named president and a director of Spickelmier Products Co., Indianapolis, Ind., formerly Water Repellents, Inc. The company makes cleaning fluids and compounds, mildew-proofing products for commercial, industrial and consumer use and water repellents. Mr. Van Kennen was formerly assistant to the president of Reynolds Metals Co. and more recently was director of merchandising for Fuller & Smith & Ross in Chicago.

JAMES VAN KENNEN

New Simoniz Advg. Head

The appointment of Jack Doran as advertising and sales promotion manager of Simoniz Co., Chicago, was announced recently. He formerly was with Tatham & Laird, Inc., Chicago, and the Chicago staff of Young & Rubicam, Inc., New York, advertising agencies.

Mallman Aids Sanitation

Dr. W. L. Mallman, noted sanitarian and professor of bacteriology at Michigan State College, heads a committee appointed by the National Automatic Merchandising Association to draw up a model ordinance for regulation of the operation of cup beverage vending machines. Dr. Mallman, who for several years has supervised a research program for the Association on sanitary aspects of vending machines, will draft technical details of the proposed model code.

Seacoast Names Baker

The appointment of Irvin Baker as vice-president in charge of sales of Seacoast Laboratories, Inc., New York, was announced last month. For the past four years, Mr. Baker had been associated with the insecticide sales department of General Chemical Division, Allied Chemical & Dye Corp., New York. A graduate of Rutgers University, he is taking active charge of the insecticide and fungicide division of Seacoast Laboratories.

Shifts Allaire-Woodward

The opening of a sales and purchasing office in the Chanin Building, 60 E. 42nd St., New York, and the removal of the plant of Allaire-Woodward, recently acquired and now operated as a division, from Peoria, Ill. to its headquarters in Chehalis, Wash., was announced recently by I. P. Callison & Sons.

To Alter Insecticide Claims

A stipulation in which Eagle Products Co., Chattanooga, Tenn., agrees to stop claiming that "Spra-Kill" insecticide is sure, instant in action or safe, was approved recently by the Federal Trade Commission, Washington. Under terms of the agreement, the corporation will refrain also from representing the ingredients of the product are entirely new.

Crawford New FDA Head

Charles W. Crawford, formerly deputy commissioner of the Food and Drug Administration, Washington, D. C., has been named to succeed Dr. Paul B. Dunbar, who retired as Commissioner, May 31, it was announced recently by Oscar W. Ewing, Federal Security Administrator. Mr. Crawford has been with the government for 34 years, all of them with the FDA. He was appointed assistant deputy commissioner in 1942, and named deputy commissioner when that office was established in 1944.

Dr. Dunbar joined the FDA in 1906 under Dr. Harvey W. Wiley to undertake enforcement of the pure foods and drugs act of that year. In 1915 he became assistant to Walter G. Campbell, then chief of the eastern food and drug inspection district. When FDA was established as a separate enforcement bureau in 1927, Dr. Dunbar was named assistant chief under Mr. Campbell. In 1944, Mr. Campbell retired and Dr. Dunbar succeeded him.

CHARLES W. CRAWFORD

Int. Wax Refining Moves

International Wax Refining Corp., Brooklyn, recently moved to new and larger quarters at East Hawthorne Avenue and Long Island RR, Valley Stream, Long Island, N. Y. The company's new telephone number is VAlley Stream 5-1043. The firm was formerly located at 4415 Third Ave., Brooklyn.

Plan Mosquito Campaign

Businessmen of Clarendon Hills, Chicago suburb, are planning a vigorous mosquito abatement campaign in their community this summer. As a preliminary, a fogging machine was borrowed from the neighboring village of Downers Grove and demonstrated before residents of Clarendon Hills on May 5. Following this, solicitation was started for funds with which to purchase similar mosquito control equipment.

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Delaney Group Hears Bishopp

DR. FRED C. BISHOPP of the Bureau of Entomology and Plant Quarantine, U. S. Dept. Agriculture, presented testimony before the Delaney Committee, May 17, on the important role insecticides have played in protecting the food supplies and the health of the nation. "The fact that the people of this country are the best fed in the world, are so well clothed, have such a high degree of freedom from diseases, and are surrounded with so many of the comforts of life," Dr. Bishopp testified, "is due in considerable measure to the development and general application of methods for controlling insects, and plant and animal diseases."

He pointed out that the Department of Agriculture has been zealous in protecting the public against toxicity hazards inevitably connected with insecticide use. When DDT traces began appearing in the milk of dairy cows, he recalled, federal and state entomologists immediately recommended that DDT not be used around dairy barns. Reports that DDT was being found stored in the fat of animals likewise led immediately to a recommendation against this insecticide being used on feeds or forage crops that are fed to dairy animals or to stock being finished for slaughter. Similarly, complaints of off-flavors resulting from use of benzene hexachloride on edible products led promptly to a decision by the USDA not to recommend either BHC or lindane for control of insects on edible root crops or any other crop where there would be a likelihood of adverse effects.

Dr. Bishopp went on record as indicating that present legislation covering insecticides is adequate. "The paramount need," he observed, "is for legislation of a uniform type in every State rather than radical changes that will make existing problems more complex."

He called also for more emphasis on educating insecticide users to the toxicity hazards necessarily connected with insecticide use. "The operator must be made to realize that he is using hazardous materials and to read labels and follow directions

DR. F. C. BISHOPP

for use in order to avoid unnecessary risks to himself and the public. These accidents have largely resulted from workers disregarding instructions to use a respirator and protective clothing."

J. T. Sanders, legislative counsel to the National Grange, testifying at the same session, suggested formation of a three-man commission to be known as the National Pesticide Commission. It would be composed of ex-officio technical representatives from the Agricultural Research Administration, U.S.D.A., from the Food and Drug Administration, and from the U. S. Public Health Service. The function of this commission would be "to determine policies and to make decisions as to research needed to test a new product, and to draw conclusions on the safe and economically sound use of new chemicals for farm production and marketing, and food processing. It would set tentative and final tolerances."

The proposed commission, he suggested, should be assisted in its work by a Food Industry Advisory Committee. To consist of eight members, Mr. Sanders suggested they be drawn from (1) The American Medical Association (2) American Veterinary Medical Association (3) The pesticide manufacturing industries (4) The food processing industries (5) Farm food producing groups such as vegetable or fruit producers (6) The Land Grant Colleges or general farm organizations (7) Marketing groups (8) Consumer groups.

◆

To Represent Parlee

The appointment of Townsend Price & Co., Philadelphia, as sales representatives in Pennsylvania for Parlee Co., Indianapolis, manufacturers of dust control products and chemically treated cloths, was announced recently.

◆

McCormick ILO Delegate

The appointment for the third successive year of Charles P. McCormick, president of McCormick & Co., Baltimore, as the employer delegate for the United States to the International Labor Organization Conference by President Truman was announced recently. The Conference convenes in Geneva, Switzerland, on June 6, and is to be preceded by a meeting of the governing body of which Mr. McCormick is a member.

◆

A.E.P.C.O. Unit Meets

The annual meeting of the executive committee of the Association of Economic Poisons Control Officials was held recently in the offices of the Insecticide division of the Livestock Branch, Production and Marketing Administration, U. S. Department of Agriculture, Washington, D. C. Justus C. Ward, chairman, Toxicity and Antidote Committee, reviewed new information and the status of toxicity of some of the new pesticides. Most recent research data and experiences with chlordane, aldrin, dieldrin, etc., have resulted in the need for modifying some of the views on the use and handling of these materials, it was pointed out.

Association business concerning the fall meeting program and other details occupied a portion of the committee's time. Further consideration was given to coordinating enforcement work performed by federal and state agencies. This question was considered thoroughly both by the committee itself and at a meeting on April 25 at which representatives of trade associations were present.

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Changes Suggested at Hearings on F. T. C. Floor Wax Rules

MEMBERS of the floor wax products industry convened at the Federal Trade Commission's headquarters in Washington May 11 for another attempt to agree on a set of fair trade practice rules. The "conference," which ran the entire day, was well attended by producers, distributors and representatives of the trade associations, as well as by officials of the interested government agencies, such as the Federal Supply Service and the National Bureau of Standards. Barnett Watson, FTC attorney, presided.

This was the second hearing in two years on a set of proposed rules for the industry. Although members still were found to be split over two important features—definitions of the terms "wax" and "industry products" and the so-called 50 per cent rule—the hearing showed that progress had been made over the intervening period in settling differences on other provisions. Nearly all of the other nineteen rules were accepted without change and elicited a minimum of comment.

There was no indication at the close of the hearing as to when the Commission might be expected to act finally on the rules. Mr. Watson allotted 10 days within which interested persons can submit further comments and suggestions.

The controversy over the definitions of "wax" and "industry products" centered over the question whether the language used in the rules would permit the term "wax" to be used when the product contains shellac. The purpose of the definition is to exclude shellac. This was fought bitterly by some of the manufacturers whose products contain shellac. They argued that the definition of wax should be on a functional basis rather than on the chemical composition of the product.

Wax is defined in the rules as bees-wax and other materials "which are essentially solid alkyl esters of aliphatic acids" etc. It was argued that under this language it is questionable whether shellac products are included or excluded from the rules because there is no sharp dividing line between resinous materials and wax. The chemical composition of shellac has never been determined, it was added.

Industry Products Change

A NON-CONTROVERSIAL change proposed in the definition of "industry products" was that it be broadened so as to include the group of producers who make a product for ready polished floors. In this instance, the wax is melted and applied to the flooring before the floor is laid, it was explained, and can be removed only by petroleum hydrocarbons essentially of the aliphatic series. As the definition is now written, it is questionable whether the makers of these products could sell them as waxed floors.

The so-called 50 per cent rule which was the only other provision of the proposed rules which led to an unusual amount of discussion makes it an unfair trade practice to call a product a wax unless it contains at least 50 per cent wax. However, some producers are now putting out a new product, incorporating collodial silica, a development of E. I. du Pont de Nemours & Co., Wilmington, Del. These products are only about one-third wax. The collodial silica reduces the skid of wax without diminishing its other qualities, according to the maker.

It was explained that floor waxes containing the du Pont product ("Ludox") work best when there is much less than 50 per cent wax in the preparation. Up to the present time all of the collodial silica being used goes into the waxes for commercial buildings and the federal government, but it is only fair to the household consumers, it was argued, that these formulas be available to them also. It was proposed that the 50 per cent rule be dropped and that any product be allowed to be called wax whose largest single class of products by weight in the film deposited on the surface is wax. This would permit the products containing collodial silica to be marketed as wax even though the wax content is only thirty per cent.

Opponents of such a change in the rule said that this might deceive consumers. They said that if a product is to be rightfully called a wax, an arbitrary percentage of wax must be fixed and the rule of reason is that it must be at least 50 per cent. They insisted that if it is desirable that some substance be added to wax to reduce the amount of slip, the 49 per cent margin for non-volatile substances is sufficient to experiment with. Proponents of a change in the rule pointed ou that there never has been a standard set up either by industry or by a governmental authority on the percentage of wax that must be contained in floor waxes. The FTC is not the agency to set such standard, they argued rather it should be some agency like the Bureau of Standards, it was declared.

Rule 6, containing a test for water resistance, calls for a milliliter of distilled water at 72°C. to stand for an hour on panels of floor materials undergoing tests. Such a temperature, which equals about 160°F. is entirely too high it was stated and might properly be considered a standard for removability of wax, rather than a standard for water resistance. The test was intended to simulate conditions as they might exist in a household kitchen during washing of dishes, but it was pointed out that water of this temperature is much too high for hand dish washing. Federal specifications relative to water resistance of floor waxes call for tests with water of a temperature of about 23°C. and it was suggested that this be used in the regulations.

P. G. Morehouse, assistant director and chief of the division of trade practice conferences of the FTC questioned the necessity of going to extremes that rule 19 does with reference to outlawing guarantees and warranties, etc. and suggested that it be shortened to one paragraph.

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Sterwin Sales Meeting

New applications of "Roccal", sanitizing agent, in food processing, laundry and public health fields were reported at the annual five day sales meeting of Sterwin Chemicals, Inc., subsidiary of Sterling Drug, Inc., New York, held recently at Westchester Country Club, Rye, N. Y. P. Val Kolb, president of Sterwin, presided at the conference and announced plans for the extended development and research for new products, as well as new applications of various concentrations of "Roccal".

At the business sessions of the meeting, Sterwin employed a new technique designed to turn the conference over to field representatives. Sales representatives from different parts of the U. S. were formed into seven committees, reporting recommendations for new packaging, aids for product users, advertising, sales policies and new markets. The "Roccal" committee was headed by Jack F. Bozman of Atlanta. Discussion of the reports was led by executives of the headquarters office. Edward P. Hassler, assistant sales manager and Dr. R. C. Sherwood, technical director, led discussions on "Roccal".

Representing the various districts were: Lee F. Soklich, Los Angeles; Peter V. Metcalf, Dallas; J. A. Revord and Fred Scherer, Chicago; Paul Callison, Portland, Ore.; Lyle P. Carmony, St. Louis; N. J. Stromstad, Minneapolis; Jack F. Bozman, Atlanta; L. R. Patton, Buffalo; Daniel Smith, Washington, D. C.; W. O. Edmonds, Charlotte, N. C.; L. L. McAninch and James M. Doty, Kansas City; Gordon Weed, Philadelphia; C. E. Noe, Boston, and R. Steele Sherratt, Keith Baldwin, Michael Padley, New York.

Named by Innis, Speiden

F. E. Strauch, Chicago branch manager of Innis, Speiden & Co., New York, was appointed recently as mid-

F. E. STRAUCH A. M. OSTER

western district manager. At the same time, it was announced that A. M. Oster has been advanced to the post of assistant branch manager in Chicago. Mr. Strauch has been with the firm since 1922, when he joined the firm's Chicago branch as a salesman. He was named assistant manager in 1935 and was made Chicago branch manager in 1944. Mr. Oster has been with Innis, Speiden since 1941, having been in the chemical industry since 1926. He was made assistant branch manager in Chicago in 1946.

Field representatives of Sterwin Chemicals Inc., subsidiary of Sterling Drug, Inc., New York, take over at annual sales meeting. Shown (left to right) are: Jack F. Bozman, Atlanta; C. E. Noe, Boston; N. J. Stromstad, Minneapolis; Daniel Smith, Washington, D. C.; and Michael Padley, New York. These five from district sales offices comprised the committee on "Roccal," sanitizing agent, which reported recommendations for new packaging, aids for users of the product, and sales policies. Mr. Bozman was chairman of the committee.

Reilly Advances Three

John B. Windsor has been appointed manager of the Fairmont, W. Va. plant of Reilly Tar & Chemical Corp., Indianapolis, it was announced recently by Peter C. Reilly, Jr., vice-president. At the same time it was announced that John Campione has been named plant superintendent and P. A. Neri placed in charge of plant development. All three men have been associated with the Fairmont plant for a number of years.

New Floor Product

A new "anti-slip" penetrating and surface sealing asphalt tile preserver was announced recently by Multi-Clean Products, Inc., St. Paul. According to the manufacturer, in a recent series of tests on the office floors of Seeger Refrigerator Co., St. Paul, a 65 percent cut in floor maintenance time and a saving of 50 percent in floor maintenance materials were achieved. The new material is applied four times a year. It replaces wax applications which were necessary two and three times a month. Preceding the application of the tile preserver, floors were given a thorough scrubbing with a number O steel wool pad under an all-purpose floor machine. Daily maintenance consists of a dry dust mopping and every three or four days the floors are given a damp mopping with cold water, followed by machine buffing with a number O steel wool pad.

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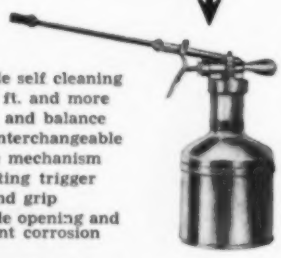

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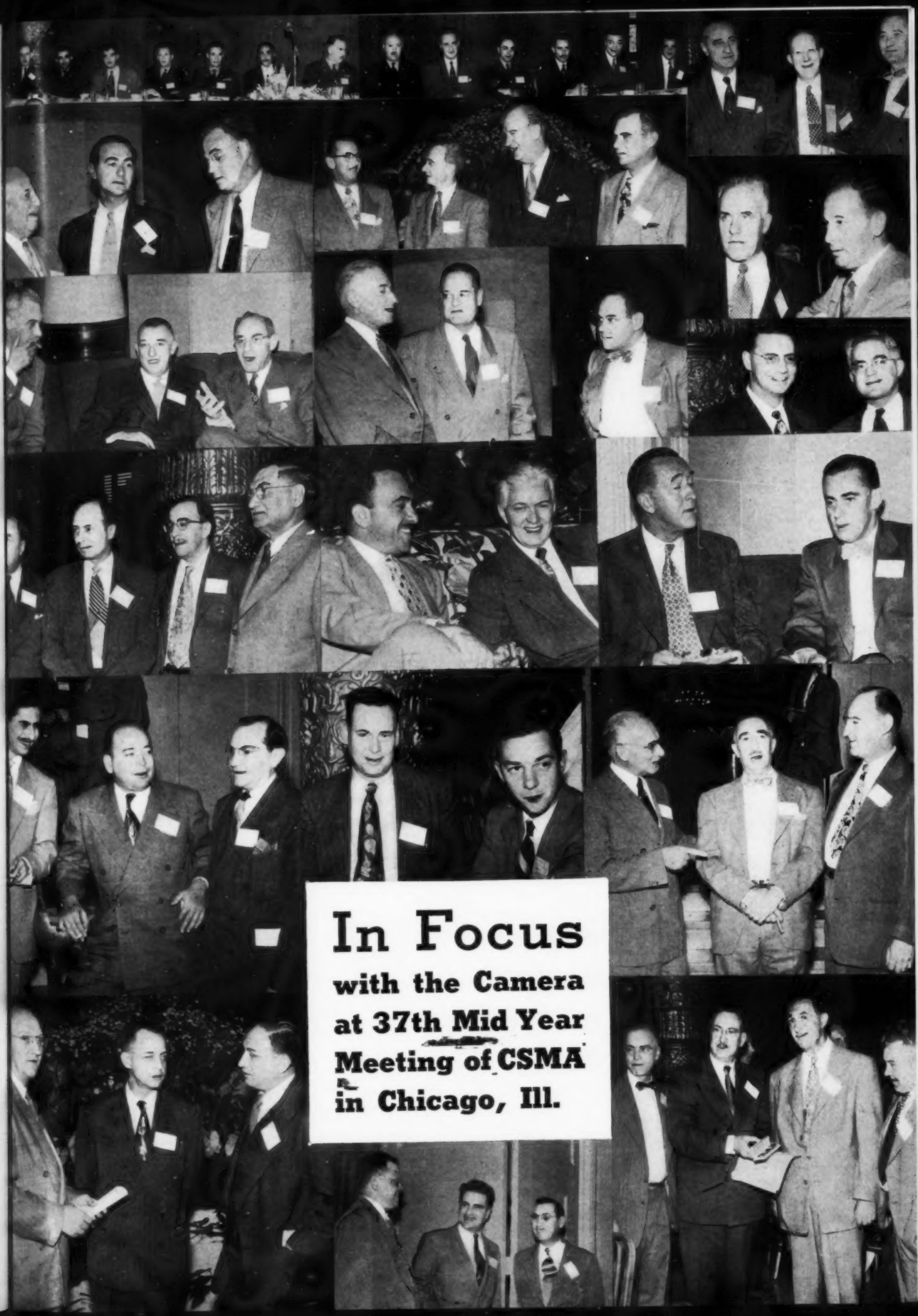

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Extend CPR-22 Filing Date

THE Office of Price Stabilization has just announced an extension in the filing date under CPR-22. The new final date is July 2, and it is understood there will be no further extensions. If manufacturers show that they are going to apply price increases, there must be a 15 day waiting period after filing.

In a telegram to Michael V. DiSalle, director of the Office of Price Stabilization, May 18, the Chemical Specialties Manufacturers Association had requested an extension in time before compliance with the price rollback outline in CPR-22. The text of the telegram follows:

Mr. Michael V. DiSalle,
Office of Price Stabilization,
Washington, D. C.

Many members of this Association ask that we respectfully request an extension of time for the filing of information required under CPR 22 small and medium sized companies not having large accounting departments finding it difficult or impossible to meet May 28th date, especially those with wide variety of end products.

H. W. Hamilton, *Secretary*
Chemical Specialties Manufacturers Association, Inc.,
110 East 42nd Street,
New York City

On May 22, the C.S.M.A. received the following reply:

Reurtel May 18 for extension of effective date of Ceiling Price Regulation 22 will be given consideration, no assurance can be given now that any extension will be granted. Any such extension would apply generally. We cannot grant an extension to an individual company. Your attention is called to Sections 13, 15 and 16 of Ceiling Price Regulation 22 and to Supplementary Regulation 2 thereto which should reduce the number of calculations you must make.

T. H. McCormack, Dir. Rubber Chemicals and Drugs Division, Washington, D. C.

Canco Advances Arms

S. D. Arms, general manager of manufacture for American Can Co., New York, was recently elected vice-president in charge of the firm's Atlantic division, it was announced by W. C. Stolk, president. He succeeds R. L. Sullivan, who has retired after having been with the can company for 47 years. In his new post, Mr. Arms is in charge of sales, manufacturing and research in the division, which includes the Atlantic seaboard states from Maine to Florida. The new vice-president has been with the firm since he entered its service in 1912 at its Fairport, N. Y. plant. He is a 1912 graduate of Colgate University.

The election of two new vice-presidents of American Can Co., New York, and the advancement of two vice-presidents to new executive responsibilities was announced recently by W. C. Stolk, president. Elected vice-presidents were T. E. Alwyn, general manager of sales, now vice-president in charge of sales, and R. F. Hepenstal, former assistant general manager of manufacture, presently vice-president in charge of manufacture.

L. W. Graaskamp and R. C. Taylor, heretofore vice-presidents in charge of sales and manufacture, respectively, have had their duties broadened. They are working directly with the principal executive officers in the overall administration of the company.

S. D. ARMS

T. E. ALWYN

ALFRED T. LOEFFLER

Chlordane Data Digest

Publication of "A Digest of Information on Chlordane" by R. C. Roark, Division of Insecticide Investigations, Bureau of Entomology & Plant Quarantine, Agricultural Research Administration, U. S. Department of Agriculture, Washington, D. C., was announced recently. The 132-page booklet covers such subjects as chemical and common names of chlordane, labeling, synthesis, analysis, physical and chemical properties, etc.

Loeffler in OPS Post

Alfred T. Loeffler of Monsanto Chemical Co., St. Louis, was named recently as head of the chemicals and drugs branch of the chemicals and drugs division of the Office of Price Stabilization, Washington, D. C. Mr. Loeffler, who joined Monsanto as assistant New York branch manager in 1937, was named general manager of the branch in 1939. Last January he was transferred to the company's St. Louis headquarters as director of development for the organic chemicals division.

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Ind. Advisory Committees Meet

INDUSTRY advisory committees for manufacturers of insecticides, disinfectants and sanitizers, and waxes and polishes were named by the National Production Authority last month, and initial meetings of all three committees were held in Washington May 17 and 18.

The Disinfectants and Sanitizers Industry Advisory Committee met on May 17, with L. N. Markwood of NPA's Chemical Division presiding. Committee members reported that the raw material supply problem is an acute one for their industry. Although pine oil is being produced at capacity, increasing use of this material in the flotation process in the recovery of copper, nickel and lead currently takes about 35 per cent of the output. Only 30 to 40 per cent of pine oil production is currently available for disinfectant manufacture. Another critical shortage is in cresylic acid, while synthetic phenol is also in short supply and this shortage figures to be worse rather than better six months hence. Polyethylene for container linings for drums is another material reported to be short.

Members of the advisory committee suggested that since all their products are devoted to supplying MRO (maintenance, repair and operating supplies) requirements, that they should be permitted by NPA to fill all orders without requiring DO ratings. The suggestion will be considered by NPA.

Committee members who attended this initial meeting included Gordon M. Baird, Baird & McGuire, Inc., Holbrook, Mass.; Melvin Fuld, Fuld Bros., Inc., Baltimore, Md.; R. T. Yates, Hercules Powder Co., Wilmington, Del.; A. G. Peck, Peck's Products Co., St. Louis; A. L. Feldman, the Puritan Chemical Co., Atlanta; William Clark, Sterwin Chemicals, Inc., New York; Samuel T. White, Southern Calif. Disinfecting Co., Los Angeles; J. C. Varley, James Varley & Sons, St. Louis, and L. J. Oppenheimer, West Disinfecting Co., Long Island City, N. Y.

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Waxes and Polishes I.A.C.

The Waxes and Polishes Industry Advisory Committee met on May 18. Its chief recommendation was that the U. S. Department of Commerce act to encourage domestic production of waxes, to lessen the dependence of wax manufacturers on carnauba imports. It was suggested that the NPA aid in obtaining sulfuric acid, sodium bichromate and other raw materials needed by a west coast producer of montan wax, which would aid this firm in increasing its output. Similar aid was requested in obtaining steel for sugar cane wax plant expansion.

Members attending the first session of this committee included Herman

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Insecticides I.A.C. Meets

The Household, Industrial and Dairy Insecticides Industry Advisory Committee also met on May 18. There is no overall shortage of insecticide raw materials, industry delegates reported, although pyrethrum represents a specific case where demand far exceeds available supply.

Some of this decreasing supply is accounted for by the cut-back in acreage devoted to the raising of pyrethrum flowers in British East Africa since the war. In the Belgian Congo a plant disease has had a marked effect in lowering pyrethrum production. Still another factor in the present shortage, industry members pointed out, is the reversion to the use of pyrethrum for livestock sprays following the cessation of the use of DDT for that purpose. This presents a serious problem in the dairy industry. There was little importation of pyrethrum from Japan last fall, but Japan is steadily increasing its acreage devoted to pyrethrum production and some imports from that country may be expected in July.

NPA said the present production of allethrin, a synthetic substitute for pyrethrum, is only on a small scale but that it is expected to increase considerably in the next two years. Industry members reported getting a small amount of allethrin for civilian use but said most of the production was going for military requirements. They suggested that defense agencies might release some of their stocks of pyrethrum and substitute allethrin for use in aerosols to be used for mosquito sprays and similar products and thus more pyrethrum might be made available to relieve the civilian shortage.

NPA said the military was greatly interested in expansion of the supplies of allethrin and there is a definite program for that purpose. NPA reported also a considerable expansion in the production of lindane.

Industry members said there was an increasing scarcity of "Freon," and that the shortage of this material is becoming acute. The group also reported the shortage of containers is caused more by the scarcity of the materials for the valves on aerosol products than by any scarcity of the metals for cans. The trend in preference for low pressure containers as against high pressure ones continues, and is now about 15 to 1, it was said.

These industry members attended: J. M. Kimmel, Aeropak, Inc., Chicago; William E. Roll, American Disinfectant Co., Washington, D. C.; Donald Finlayson, Bridgeport Brass Co., Bridgeport, Conn.; H. R. Shepherd, Connecticut Chemical Research

(*Turn to Page* 159)

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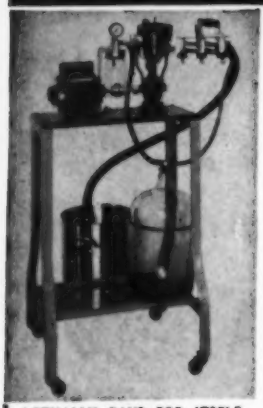

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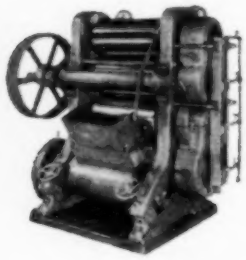

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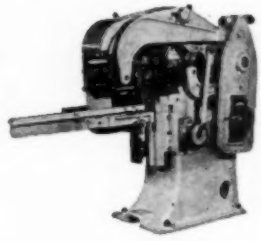

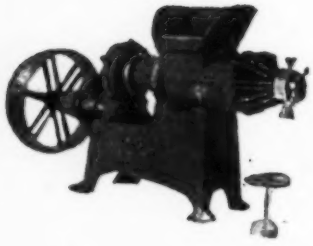

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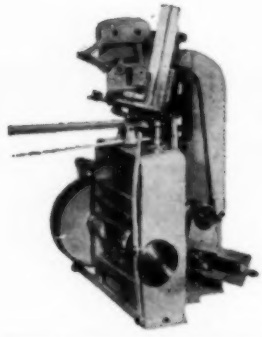

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(Formerly Director of Science, Government of the Philippine Islands; Retired Chief, Bureau of Chemistry, State of California Department of Agriculture.)

ADVISOR ON AGRICULTURAL CHEMICAL PROBLEMS AND INVESTIGATIONS

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For Sale: Horizontal Ribbon Type Powder Mixers: J. H. Day 50#, 100#, 200#, 600# and 800#; Robinson 5000#, Read 600# Jacketed. Broughton 2000# mixer. Large stock stainless steel tanks and jacketed kettles. Perry Equipment Corp., 1510 W. Thompson St., Phila. 21, Pa.

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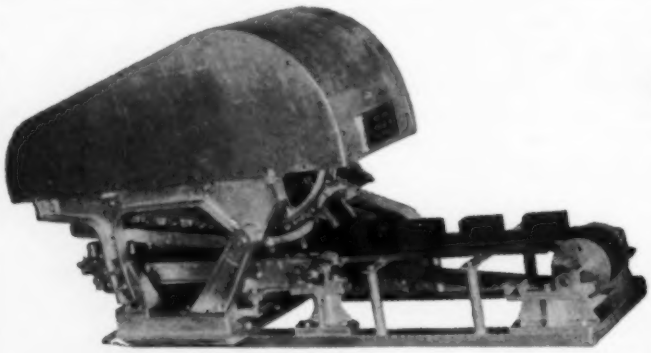

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For Sale: Complete soap or sanitary chemical plants. Also individual items such as crutchers, plodders, mills, mixers, pressers, dryers, filling equipment, etc. R. Gelb & Sons, Inc., State Highway No. 29, Union, N. J.

For Sale: Mixing machinery, pumps, storage and mix tanks, agitators, scales, motors (new and used). Plant Equipment Co., Cincinnati 3, Ohio.

Sharples Expands Facilities

The chemical plants division of Blaw-Knox Co., Pittsburgh, recently received a contract from Sharples Chemicals, Inc., Philadelphia, for the engineering and construction work to increase the capacity of Sharples' alkylamine facilities at Wyandotte, Mich.

Bertrand Appointed to DPA

Eugene F. Bertrand, sales manager of the Drug and Chemical Industries Divisions of Owens-Illinois Glass Co., has been appointed assistant administrator of the Defense Production Administration, according to a recent announcement by W. H. Harrison, DPA administrator.

Mr. Bertrand has been with Owens-Illinois since 1934, having served as a salesman in the New York branch, and as sales manager of the company's Tumbler Division. He was

EUGENE F. BERTRAND

named to his present Owens-Illinois post in 1940. During the war, he served as chairman of the Packaging Committee of the War Production Board, and also as assistant director of the Forest Products Bureau. After the war, he served briefly with the National Security Resources Board as a consultant, organizing the NSRB Containers Division. In taking his present assignment, he will be on leave from Owens-Illinois.

Quaternaries

(*From Page* 149)

properties exhibited by quaternary ammonium compounds, it is necessary to plan a detailed market analysis of the industry in which we wish to sell our products. This market analysis will reveal the factors which will determine the potential for the use of the product in the particular industry. A survey such as I outlined before will enable you to probe these factors in detail. This probe, in the person of the questionnaire and the interview will outline the problems of the industry and will provide the basis for choice of the type of product that will find the largest use in the application.

Quaternaries, because of their ease of application and their versatile effective performance, will fit most of the applications that are interesting from point of view of volume of sales. The restrictions to their application are very few, providing they meet the performance requirements of that application. A point to remember when discussing the performance of quaternaries in specific applications is that they can be formulated in such a manner as to adapt them to the varying conditions found in the field.

Improvements in the existing methods of the applications of germicides and improvements in the efficiency of operations which can be effected by the use of quaternaries are certainly to be sought. It is to our credit as a nation that we have always searched for newer, easier, more efficient ways of doing things. The use of quaternaries is another example of this commendable attitude as applied to making our sanitation problems less of a problem and our standards of health higher.

Bibliography

1.) "Consolidated Report of the Committee on Definitions", the National Marketing Review, publication of the National Association of Marketing Teachers, Vol. 1, p. 157, Fall, 1935.

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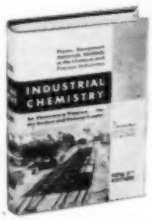

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Every effort is made to keep this index free of errors, but no responsibility is assumed for any omissions.

TALE ENDS

AS you glimpse this, gentle reader, it will be "Sanitation Week" in Cleveland by proclamation of his honor, the Mayor. And, the NSSA will be in session at its 28th annual sprawl in that fair city and the place will be over-run with the gentry of the sanitary supply industry. And if everybody doesn't go home full of pep and vinegar on how to sell more sanitary supplies, they have missed the general idea completely!

• • •

Sweet-smelling names for race horses! Grant Dorland, one of the publishers of this sheet, who breeds racing thoroughbreds down Lexington, Kentucky, way, has started an innovation in naming horses,—after essential oils and perfuming materials. First to be thus named, bred at Dorland's Roseland Farms, is a two-year old filly by Whirlaway out of the stake-winning mare, Key Ring. "Neroli" is the very appropriate tab for this fancy-bred filly. We imagine that jasmin, bergamot, cananga, et al, will follow in due course.

• • •

Our poor old cruller-legged editor has been asked by one of our readers why he objects to proposed legislation requiring a statement of ingredients with percentages on all household packages of soaps, detergents, cleansers, etc. This gent sees no reason why an honest soaper should object to such labeling requirements. And that's because he is not a small soaper. If he were, gentle reader, he would be more inclined to take a dim view of any such proposal.

• • •

In the South American market, our grapevine reports indicate that P & G are really putting on the heat in their current advertising campaigns for "Camay" and "Ace." What they have already accomplished with "Tide" in the Latin American market is little short of miraculous, according to advices from a Venezuelan soaper.

• • •

Charley McCormick and Les Jones, respectively president and vice-president and director of purchases for McCormick & Co., Baltimore, accompanied by their wives, are sailing for a six-week jaunt through Europe May 19. Among other investigations will be one of the spice, fly spray and glue market in Paris. However, both of these former "dynamo boys" are reported to have reduced their pace. Doctors' orders. Bon voyage, youse guys!

• • •

Soap again plays its part in international intrigue. Ex-Nazi General Erich von dem Bach-Zelewski, just given a 10-year stretch for war crimes, has claimed that he supplied Hermann Goering with his suicide poison in a cake of soap. Who cares?

• • •

Attention, Mike DeSalle, Washington, D. C.! Here is a bouquet for OPS from the secy. of a well-known trade association. When he requests four or five hundred mimeographed copies of a new OPS order so that he can send them out to his members, said secy. reports that he gets them pronto, complete and without charge. And, he adds, which is not true of the same service requested from NPA,—and for which they charge. So, mixed in with the brickbats being heaved at OPS is at least one orchid!

• • •

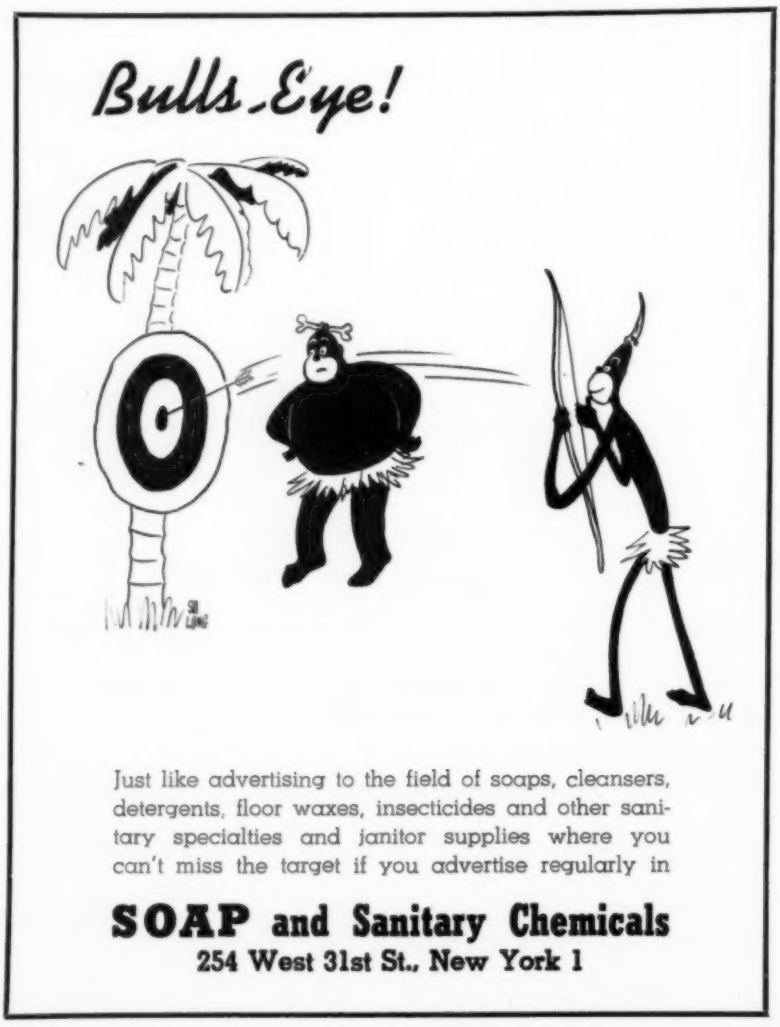
If you are attending the annual Natl. Sanitary Supply Assn. shindig at the Cleveland Auditorium, don't fail to shake hands with everybody. He may be Mr. X,—and if you happen to be No. 25 on his list of daily handshakes, you are handed a $100 bill. Easy way to make money,—if your arm holds out! Isn't this an idea that a wild Irishman would come up with? Page Leo Kelly!

• • •

State Fair Trade Laws may not have been killed outright by the May 21st decision of the U. S. Supreme Court, but they certainly have received an awful jolt. As the Toilet Goods Assn. points out, this court decision means that every manufacturer hereafter would have to enter a contract with every dealer handling his goods, an obvious impossibility. The alternative is an amended Miller-Tydings Law or new legislation. Until then, good friends, fair trade looks like a cooked goose.

• • •

If Delaney Committee members believe, as some apparently do, that a new law is needed to control insecticides, an industry representative has suggested that they try just once to register a label for a new insecticide with USDA and see what the industry already faces in the way of strict control.



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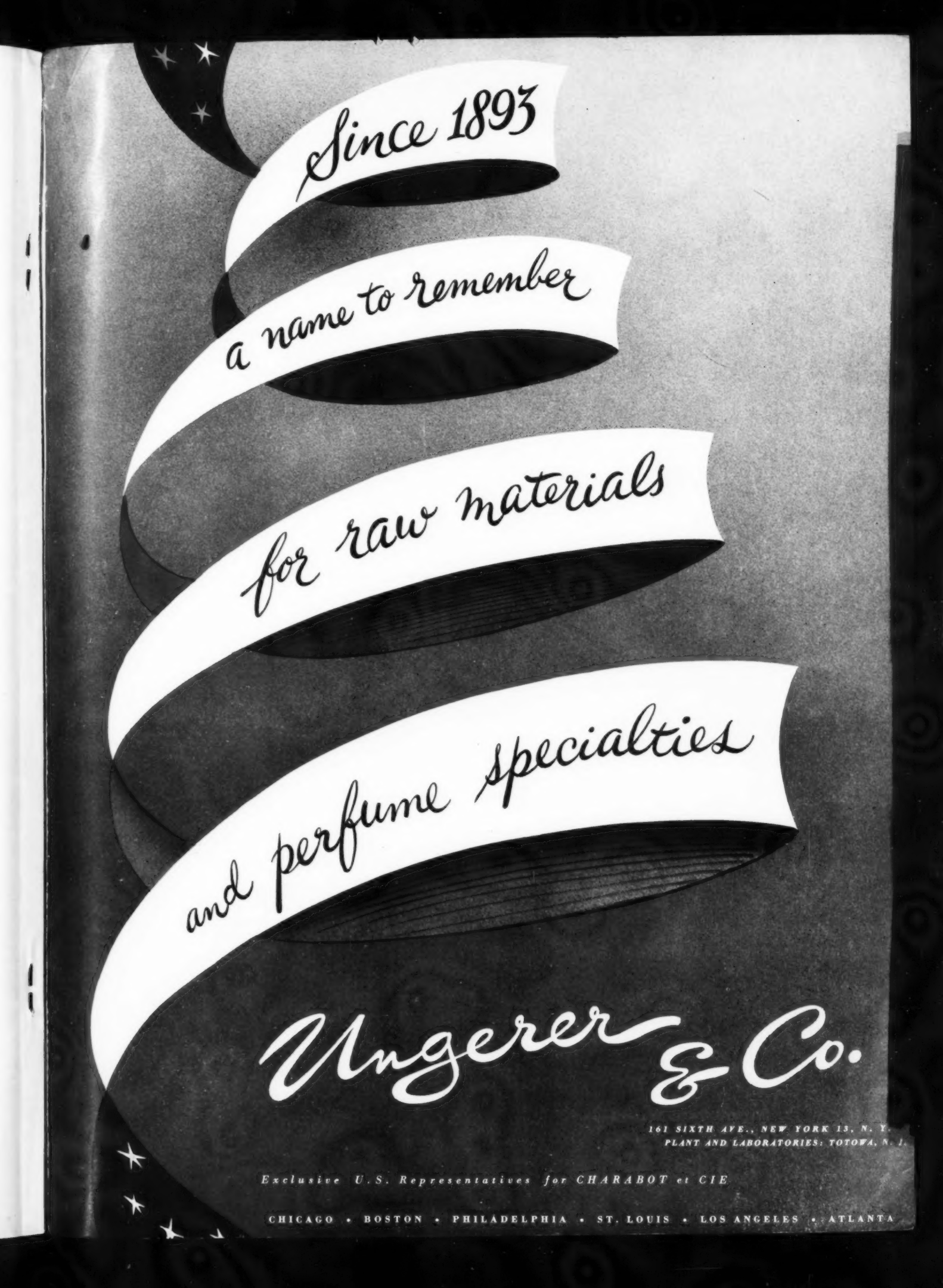
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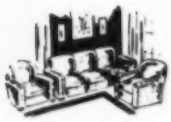
Exclusive U.S. Representatives for CHARABOT et CIE
CHICAGO • BOSTON • PHILADELPHIA • ST. LOUIS • LOS ANGELES • ATLANTA

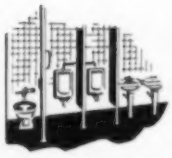
Pick An Odor From One to Ten

STORAGE CLOSET ODORS

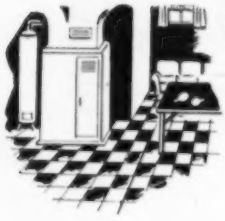


UPHOLSTERED FURNITURE ODORS

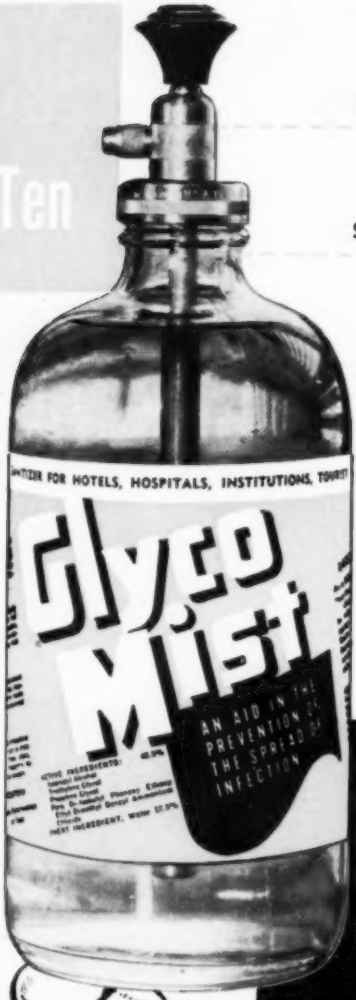
PET AND ANIMAL ODORS



RESTROOM ODORS



MUSTY BASEMENT ODORS



COOKING ODORS

SICKROOM ODORS

STALE TOBACCO ODORS

BUS, PLANE, TAXI ODORS

BATHROOM ODORS

Spray Glyco-Mist That's The End!!

The New Triethylene-Glycol DISINFECTANT-SANITIZER With The Tantalizing Odor of APPLE BLOSSOMS

What's the shortest distance between two points? A straight line! AND the shortest distance between an objectionable odor and it's destruction is GLYCO-MIST!

That's right! Glyco-Mist gets there inside of seconds and completely destroys offensive, disagreeable odors. There's no fuss — no muss — a "shot" or two of Glyco-Mist into the atmosphere and Presto! the atmosphere is magically fresh, marvelously clean scented . . . and fragrant with a most delightful aroma of fresh-picked apple blossoms!

We could go on for pages telling you the wonders of this marvelous deodorant — air sanitizer . . . and you wouldn't believe any product could be THAT good. *Glyco-Mist sells itself!* Let us send you a small trial bottle of Glyco-Mist with a free plastic sprayer . . . take it home . . . use it around the house . . . we know you will agree it is the finest deodorant ever created and when you add Glyco-Mist to your line, it will mean *increased sales* and *increased profits* this year.

There is a trial bottle and sprayer all ready to go. May we have the pleasure of mailing it to you? The attached coupon will put it in your possession in a few days time.

Sanitizes While It Deodorizes!!

JAMES Varley & SONS, INC.

MAIL THIS COUPON TODAY!

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Please rush me a trial 4-oz. bottle of GLYCO-MIST with a FREE Plastic Sprayer. Also send prices and full information.

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